

Cisco发现协议行为在路由器和交换机之间的

TAC

文档ID118736

已更新：2015年5月06日

贡献用Meghana Tandon，Sumanth Srinath和Vishnu Asok，Cisco TAC工程师。

 [下载 pdf文档](#)

 [打印](#)

[反馈](#)

相关产品

• [搜索...](#)

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[CDP计时器和CDP保持时间](#)

[拓扑](#)

[注册路由器](#)

[注册交换机](#)

[情形 1：交换机发送一标记为的CDP数据包](#)

[方案 2：交换机发送一无标记CDP数据包](#)

[相关的思科支持社区讨论](#)

简介

本文描述思科设备发现协议(CDP)行为在运行Cisco IOS的路由器和交换机之间的。

是独立的媒体和的协议的CDP是思科所有权第2层协议，并且运行在所有Cisco生产的设备。

Cisco设备传送CDP通告对组播目的地地址01-00-0c-cc-cc-cc每个连接的网络网络界面。这些组播信息包由通过他们的连接的网络网络界面支持CDP的Cisco交换机和其他网络设备接收。

[先决条件](#)

要求

本文档没有任何特定的要求。

使用的组件

本文档不限于特定的软件和硬件版本。本文适用于运行Cisco IOS的所有Cisco路由器和交换机。

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。

CDP计时器和CDP保持时间

默认情况下，CDP通告发送在支持子网访问协议的接口的每60秒(SNAP)报头，包括以太网，帧中继和ATM。保持时间在表里指定一个条目的寿命。即，如果通告没有从一个设备接收期限超出维持时间，设备信息丢弃(默认180秒)。

为了更改默认CDP计时器(60秒)和Cdp holdtime (180秒)，请输入**cdp计时器**，并且**cdp holdtime** Cisco IOS配置分别发出命令。更改可以用**show cdp**命令验证，显示当前设备的CDP设置。

```
Router#show cdp
Global CDP information:
  Sending CDP packets every 60 seconds
  Sending a holdtime value of 180 seconds
  Sending CDPv2 advertisements is enabled
```

CDP，默认情况下，在所有接口启用。然而，有选项禁用CDP整体上路由器的或在a每接口上。

拓扑



交换机配置

```
Switch#show run int fa1/0/23

Building configuration...
Current configuration : 267 bytes
!
interface FastEthernet1/0/23
 switchport trunk encapsulation dot1q
 switchport trunk native vlan 10
 switchport mode trunk
 power inline never
 spanning-tree portfast
 spanning-tree guard root
end
```

路由器配置

```
Router#show run int gi0/1
interface GigabitEthernet0/1
 no ip address
 no ip redirects
 duplex auto
 speed auto
 media-type rj45
end

interface GigabitEthernet0/1.1
 encapsulation dot1q 1
 shutdown
end
```

```

int vlan 10
ip address 10.111.51.3 255.255.255.224
int vlan 21
ip address 10.111.48.3 255.255.255.128

```

```

interface GigabitEthernet0/1.10
encapsulation dot1q 10
ip address 10.111.51.1 255.255.255.224
end

```

```

interface GigabitEthernet0/1.21
encapsulation dot1q 21
ip address 10.111.48.1 255.255.255.128
end

```

在路由器的接口有dot1q子接口gi0/0.1、gi0/0.10和gi0/0.21分别配置与VLAN1，10和21。在交换机的接口是所有VLAN允许的中继链路。

```
Router#show ip int brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	10.106.68.151	YES	DHCP	up	up
GigabitEthernet0/1	unassigned	YES	NVRAM	up	up
GigabitEthernet0/1.1	unassigned	YES	unset	administratively down	down
GigabitEthernet0/1.10	10.111.51.1	YES	manual	up	up
GigabitEthernet0/1.21	10.111.48.1	YES	manual	up	up

交换机显示路由器作为有效CDP邻居如显示此处：

```
Switch#show cdp neighbor
```

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay
Device ID        Local Intrfce   Holdtme    Capability Platform Port ID
Router           Fas 1/0/23     145        R S I     3845    Gig 0/1.10

```

同一on命令路由器不直接地显示连接的交换机。

```
Router#show cdp neighbor
```

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay
Device ID        Local Intrfce   Holdtme    Capability Platform Port ID
运行CDP的调试为了帮助确定原因(debug cdp {数据包|邻接|事件})。

```

注册路由器

此条目在缓存被找到。

```
Router#show cdp neighbor
```

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay
Device ID        Local Intrfce   Holdtme    Capability Platform Port ID

```

注册交换机

```

CDP-PA: version 2 packet sent out on FastEthernet1/0/23
CDP-EV: No space for insertion of civic location
CDP-EV: No space (1068) for insertion of location information.
CDP-PA: Packet received from Router on interface FastEthernet1/0/23

```

根据上一个日志，路由器没有收到从交换机的任何CDP数据包在任何连接的接口。与管理性被关闭

的dot1q封装的接口。因此，当交换机发送CDP数据包时，数据包由路由器丢弃。

注意：在路由器上，与最低VLAN/dot1q封装的子接口选择作为首选的子接口传送CDP数据包。在交换机上，CDP数据流在VLAN总是更喜欢配置的最低。即VLAN1总是，不可能从VLAN数据库删除。当交换机发送CDP作为标记信息包或未标签的信息包从属在配置的本地VLAN于中继链路时，CDP协议不同运行。

在交换机上，CDP数据流在VLAN总是更喜欢配置的最低。即VLAN1总是，不可能从VLAN数据库删除。

当交换机发送CDP作为标记信息包或未标签的信息包从属在配置的本地VLAN于中继链路时，CDP协议不同运行。

情形 1：交换机发送一标记为的CDP数据包

```
CDP-PA: version 2 packet sent out on FastEthernet1/0/23
CDP-EV: No space for insertion of civic location
CDP-EV: No space (1068) for insertion of location information.
CDP-PA: Packet received from Router on interface FastEthernet1/0/23
```

第 1 种情况：有在路由器配置的VLAN1的子接口Up/Up

```
interface GigabitEthernet0/1.1
 encapsulation dot1Q 1
end

interface GigabitEthernet0/1.10
 encapsulation dot1Q 10
 ip address 10.111.51.1 255.255.255.224
end

interface GigabitEthernet0/1.21
 encapsulation dot1Q 21
 ip address 10.111.48.1 255.255.255.128
end
```

```
GL.S.14-3800-8#show ip int brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	10.106.68.151	YES	DHCP	up	up
GigabitEthernet0/1	unassigned	YES	NVRAM	up	up
GigabitEthernet0/1.1	unassigned	YES	unset	up	up
GigabitEthernet0/1.10	10.111.51.1	YES	manual	up	up
GigabitEthernet0/1.21	10.111.48.1	YES	manual	up	up

交换机发送在将由路由器接收作为标记信息包的VLAN1的CDP数据包。路由器检查发现其子接口中的任一是否配置与VLAN1 dot1q封装并且是UP。如果此检查是成功的那么CDP数据包由在千兆以太网0/1.1的路由器处理。

路由器将生成在是up/up和已配置的与VLAN1 dot1q封装的最号码少的子接口的一CDP数据包(或最低VLAN)。

在此方案中，路由器发送在FastEthernet1/0/23的交换机接收的gi0/1.1的无标记CDP数据包。

注册交换机

CDP-PA : 在FastEthernet1/0/23派出的版本2数据包。此条目在缓存被找到。

```
interface GigabitEthernet0/1.1
 encapsulation dot1Q 1
end

interface GigabitEthernet0/1.10
 encapsulation dot1Q 10
 ip address 10.111.51.1 255.255.255.224
end

interface GigabitEthernet0/1.21
 encapsulation dot1Q 21
 ip address 10.111.48.1 255.255.255.128
end
```

GL.S.14-3800-8#show ip int brief

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	10.106.68.151	YES	DHCP	up	up
GigabitEthernet0/1	unassigned	YES	NVRAM	up	up
GigabitEthernet0/1.1	unassigned	YES	unset	up	up
GigabitEthernet0/1.10	10.111.51.1	YES	manual	up	up
GigabitEthernet0/1.21	10.111.48.1	YES	manual	up	up

注册路由器

CDP-PA : 在GigabitEthernet0/1.1派出的版本2数据包。CDP-PA : 从在接口 GigabitEthernet0/1.1的交换机接收的数据包。此条目在缓存被找到。

```
interface GigabitEthernet0/1.1
 encapsulation dot1Q 1
end

interface GigabitEthernet0/1.10
 encapsulation dot1Q 10
 ip address 10.111.51.1 255.255.255.224
end

interface GigabitEthernet0/1.21
 encapsulation dot1Q 21
 ip address 10.111.48.1 255.255.255.128
end
```

GL.S.14-3800-8#show ip int brief

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	10.106.68.151	YES	DHCP	up	up
GigabitEthernet0/1	unassigned	YES	NVRAM	up	up
GigabitEthernet0/1.1	unassigned	YES	unset	up	up
GigabitEthernet0/1.10	10.111.51.1	YES	manual	up	up
GigabitEthernet0/1.21	10.111.48.1	YES	manual	up	up

输入show cdp neighbor命令在路由器。

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

```

Device ID      Local Intrfce  Holdtme  Capability  Platform  Port ID
Router        Fas 1/0/23    149      R S I      3845      Gig 0/1.1

```

输入show cdp neigh命令在路由器。

```
Router#show cdp neigh
```

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge>
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,>
                  D - Remote, C - CVTA, M - Two-port Mac Relay>

```

```

Device ID      Local Intrfce  Holdtme  Capability  Platform  Port ID>
Switch        Gig 0/1.1     158      S I        WS-C3750- Fas 1/0/23

```

第 2 种情况：更改在路由器接口的配置，以便您没有与VLAN1的任何子接口

```

!
interface GigabitEthernet0/1.1
end
!

```

```
Router#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	10.106.68.151	YES	DHCP	up	up
GigabitEthernet0/0.1	unassigned	YES	unset	up	up
GigabitEthernet0/1	unassigned	YES	NVRAM	up	up
GigabitEthernet0/1.1	unassigned	YES	unset	up	up
GigabitEthernet0/1.10	10.111.51.1	YES	manual	up	up
GigabitEthernet0/1.21	10.111.48.1	YES	manual	up	up

分析

交换机发送在fa1/0/23的CDP标记信息包。当路由器收到数据包时，检查发现在路由器的一子接口是否为VLAN1的encapsulation dot1q配置。目前没有配置的子接口。

因而路由器收到在主接口的CDP数据包。路由器收到在主接口的数据包的原因是，因为VLAN1是活跃的。输入确认的显示vlan-switch命令。即使路由器没有为VLAN1配置的任何接口CDP数据包仍然接收。

```
Router#show vlan-switch
```

VLAN	Name	Status	Ports
1	default	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	1002	1003
1002	fddi	101002	1500	-	-	-	-	-	1	1003
1003	tr	101003	1500	1005	0	-	-	srb	1	1002
1004	fdnet	101004	1500	-	-	1	ibm	-	0	0
1005	trnet	101005	1500	-	-	1	ibm	-	0	0

在这样方案中从路由器的CDP数据包通过gi0/1发送。

注册交换机

```
Router#show vlan-switch
```

VLAN	Name	Status	Ports
1	default	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	1002	1003
1002	fddi	101002	1500	-	-	-	-	-	1	1003
1003	tr	101003	1500	1005	0	-	-	srb	1	1002
1004	fdnet	101004	1500	-	-	1	ibm	-	0	0
1005	trnet	101005	1500	-	-	1	ibm	-	0	0

此条目在缓存被找到。

```
Router#show vlan-switch
```

VLAN	Name	Status	Ports
1	default	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	1002	1003
1002	fddi	101002	1500	-	-	-	-	-	1	1003
1003	tr	101003	1500	1005	0	-	-	srb	1	1002
1004	fdnet	101004	1500	-	-	1	ibm	-	0	0
1005	trnet	101005	1500	-	-	1	ibm	-	0	0

注册路由器

```
Router#show vlan-switch
```

VLAN	Name	Status	Ports
1	default	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
------	------	------	-----	--------	--------	----------	-----	----------	--------	--------

```

-----
1      enet  100001    1500  -    -    -    -    -    1002  1003
1002  fddi  101002    1500  -    -    -    -    -    1    1003
1003  tr    101003    1500  1005  0    -    -    srb   1    1002
1004  fdnet 101004    1500  -    -    1    ibm  -    0    0
1005  trnet 101005    1500  -    -    1    ibm  -    0    0

```

此条目在缓存被找到。

Router#show vlan-switch

```

VLAN Name                Status    Ports
-----
1      default                active
1002  fddi-default           act/unsup
1003  token-ring-default     act/unsup
1004  fddinet-default       act/unsup
1005  trnet-default         act/unsup

VLAN Type  SAID          MTU    Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1      enet  100001    1500  -    -    -    -    -    1002  1003
1002  fddi  101002    1500  -    -    -    -    -    1    1003
1003  tr    101003    1500  1005  0    -    -    srb   1    1002
1004  fdnet 101004    1500  -    -    1    ibm  -    0    0
1005  trnet 101005    1500  -    -    1    ibm  -    0    0

```

在交换机上：

Switch#show cdp neighbor

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID         Local Intrfce   Holdtme    Capability Platform Port ID
Router            Fas 1/0/23     123        R S I    3845    Gig 0/1

```

在路由器上：

Router#show cdp neighbor

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
                  D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID         Local Intrfce   Holdtme    Capability Platform Port ID
Switch            Gig 0/1         160        S I     WS-C3750- Fas 1/0/23

```

当所有接口配置与封装VLAN如本地时，您看到相似的行为。

方案 2：交换机发送一无标记CDP数据包

Router#show cdp neighbor

```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,

```


D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1	160	S I	WS-C3750-	Fas 1/0/23

第 1 种情况：VLAN1配置的接口Up/Up

Router#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1	160	S I	WS-C3750-	Fas 1/0/23

当交换机发送CDP数据包到路由器时，发送未标签的信息包，本地VLAN使用此通信。因而路由器收到在VLAN1配置的接口的数据包。路由器检查是否安排dot1q封装VLAN1配置，并且接口up/up。如果此检查是成功的，路由器通过该接口发送数据包。

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	5	R S I	3845	Gig 0/1.1

Router#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.1	8	S I	WS-C3750-	Fas 1/0/23

注册路由器

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	5	R S I	3845	Gig 0/1.1

Router#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.1	8	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

注册交换机

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge

S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	5	R S I	3845	Gig 0/1.1

Router#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.1	8	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	5	R S I	3845	Gig 0/1.1

Router#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.1	8	S I	WS-C3750-	Fas 1/0/23

第 2 种情况：在VLAN配置Up/Up的路由器和两者都不的接口接口有指定的一个本地VLAN

```
interface GigabitEthernet0/1.1
encapsulation dot1Q 1
end
```

```
interface GigabitEthernet0/1.10
encapsulation dot1Q 10 native
ip address 10.111.51.1 255.255.255.224
end
```

```
interface GigabitEthernet0/1.21
encapsulation dot1Q 21
ip address 10.111.48.1 255.255.255.128
end
```

分析

当交换机发送CDP数据包到路由器时，发送未标签的信息包，本地VLAN使用通信。因为有在本身，配置的VLAN1路由器收到数据包经过gi0/1.1。路由器证实是否安排VLAN1配置或其他本地VLAN配置。在当前案件中，接口gi0/1.10配置与本地关键字。因而路由器通过gi0/1.10子接口发送数据包。

此输出在此方案被看到：

Switch#show cdp neighbor

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	5	R S I	3845	Gig 0/1.1

在路由器的CDP邻居结果显示此处：

```
Router#show cdp neighbor
```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	7	S I	WS-C3750-	Fas 1/0/23

注册路由器

```
Router#show cdp neighbor
```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	7	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

注册交换机

```
Router#show cdp neighbor
```

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,
D - Remote, C - CVTA, M - Two-port Mac Relay

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	7	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

CDP-PA : 在FastEthernet1/0/23派出的版本2数据包

实例3 : 其它WRR加权修改 没有VLAN1配置的接口，但是接口没有配置的一个本地关键字

```
interface GigabitEthernet0/1.1  
end
```

```
interface GigabitEthernet0/1.10  
encapsulation dot1Q 10 native  
ip address 10.111.51.1 255.255.255.224  
end
```

```
interface GigabitEthernet0/1.21  
encapsulation dot1Q 21  
ip address 10.111.48.1 255.255.255.128  
end
```

当交换机发送数据包到路由器时，发送在本地VLAN的未标签的信息包。路由器收到数据包经过gi0/1。路由器证实是否安排VLAN1配置或其他本地VLAN配置。

这里，gi0/1.10接口为封装配置如本地，因而路由器通过gi0/1.10发送数据包。

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	156	R S I	3845	Gig 0/1

```
Router#sh cdp neigh
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	0	S I	WS-C3750-	Fas 1/0/23

注册路由器

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	156	R S I	3845	Gig 0/1

```
Router#sh cdp neigh
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	0	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

注册交换机

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	156	R S I	3845	Gig 0/1

```
Router#sh cdp neigh
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	0	S I	WS-C3750-	Fas 1/0/23

条目没有在缓存被找到。

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	156	R S I	3845	Gig 0/1

```
Router#sh cdp neigh
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	0	S I	WS-C3750-	Fas 1/0/23

实例4：修改队列极限缓冲区分配 路由器没有Vlan dot1q封装，并且本地VLAN没有指定

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	156	R S I	3845	Gig 0/1

```
Router#sh cdp neigh
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1.10	0	S I	WS-C3750-	Fas 1/0/23

当交换机发送数据包到路由器时，发送无标记CDP数据包，当通信在本地VLAN。路由器收到数据包经过gi0/1。路由器证实是否安排VLAN1配置或其他本地VLAN配置。在这里没有同样地接口，因而路由器通过gi0/1发送数据包(在主接口)。

此输出在此方案被看到：

```
Switch#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Router	Fas 1/0/23	7	R S I	3845	Gig 0/1

在路由器的输出显示此处：

```
Router#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
Switch	Gig 0/1	7	S I	WS-C3750-	Fas 1/0/23

注册路由器

```
Router#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

```
Device ID      Local Intrfce  Holdtme  Capability Platform Port ID  
Switch         Gig 0/1       7        S I      WS-C3750- Fas 1/0/23
```

条目没有在缓存被找到。

注册交换机

```
Router#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

```
Device ID      Local Intrfce  Holdtme  Capability Platform Port ID  
Switch         Gig 0/1       7        S I      WS-C3750- Fas 1/0/23
```

条目没有在缓存被找到。

```
Router#show cdp neighbor
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

```
Device ID      Local Intrfce  Holdtme  Capability Platform Port ID  
Switch         Gig 0/1       7        S I      WS-C3750- Fas 1/0/23
```

摘要

路由器收到一标记为的CDP数据包：

子接口配置与VLAN1管理上下降状态/下来。

子接口配置与VLAN1 UP/UP。本地VLAN没有指定。

路由器没有配置的VLAN1没有本地关键字，并且其中任一子接口是配置的/。

路由器丢弃CDP数据包。交换

路由器发送并且收到在此子接

数据包在主接口横越。在两个

路由器收到一无标记CDP数据包：

子接口配置与VLAN1管理上下降状态/下来。

子接口配置与VLAN1 UP/UP。本地VLAN没有指定。

路由器没有配置的VLAN1，并且子接口都没有配置与本地关键字。

路由器没有配置的VLAN1和本地关键字。

路由器丢弃CDP数据包。交换机不会列

路由器发送并且收到在此子接口的数据

路由器收到在主接口的CDP数据包，但

CDP数据包在主接口横越。在两个方向

本文档是否是有用？[有没有](#)

感谢您的反馈。

[打开支持案例](#)（需要[思科服务合同](#)。）

相关的思科支持社区讨论

[思科支持社区](#)是提出和解答问题、分享建议以及与同行协作的论坛。

有关本文档中所用的规则信息，请参阅 [Cisco Technical Tips Conventions](#)。

已更新：2015年5月06日

文档ID118736