

用 Cisco 7500 路由器与 LightStream 1010 交换机配置 ATM 上的 VPN MPLS

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简介

本文显示如何配置虚拟专用网络(VPN) ATM上多协议标签交换(MPLS)用Cisco 7500路由器，当标签边缘路由器(LEs)和LightStream1010交换机作为标签交换路由器(LSRs)。两已连接以太网的路由器，中的每一远端用户客户地点的，是VPN的一部分。在本文中，我们查看端到端设备配置，并且有用请显示命令。

先决条件

要求

本文档没有任何特定的要求。

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。

网络图

本文档使用以下网络设置：

网络说明

当前设置在VPN术语方面包含这些元素：

- CE =用户边缘路由器
- PE =供应商边缘路由器
- P=Provider路由器

当前设置在MPLS术语方面包含这些元素：

- LER =标签边缘路由器
- LSR =标签交换路由器
- TDP/LDP =标记分布协议/标签转发协议

配置

本文档使用以下配置：

- PE1及PE2是在我们的ATM网络的LERs。
- P1和P2是LSRs。
- CE1与CE2是没有察觉的，并且不执行VPN或MPLS的用户边缘路由器。
- CE1与CE2分别为以太网连接对PE1及PE2，并且执行路由信息协议(RIP)。
- PE1、PE2、P1和P2执行开放最短路径优先(OSPF)并且是全部在Area 0。OSPF是用于ATM网络的内部网关路由协议(IGP)。标记交换在所有四个ATM设备的ATM接口使用。标签发行协议(TDP)分配标记到OSPF路由。
- PE1及PE2是多协议边界网关协议(MP-BGP)对等体。
- RIP路由再分布到MP-BGP。MP-BGP路由再分布到在PE1及PE2路由器的RIP。
- 设置维护在PE1及PE2路由器的独立的VRF路由表。
- 用于此示例的VPN的名称新建。

CE1

```
!  
version 12.1  
service timestamps debug datetime msec  
service timestamps log datetime msec  
  
!  
boot system flash c4500-js-mz.121-5  
!  
  
ip subnet-zero  
  
!  
interface Loopback0  
 ip address 10.1.1.1 255.255.255.0  
!  
interface Loopback1  
 ip address 10.2.2.2 255.255.255.0  
!  
interface Loopback2  
 ip address 10.3.3.3 255.255.255.0  
!  
interface Ethernet0  
 ip address 100.1.1.2 255.255.255.0  
 media-type 10BaseT  
  
!
```

```
router rip
  version 2
  network 10.0.0.0
  network 100.0.0.0
  no auto-summary
!
ip classless
!
```

PE1

```
!
version 12.1

service timestamps debug uptime
service timestamps log uptime

!
boot system flashw slot1:rsp-jsv-mz.121-5a.bin
!

ip subnet-zero

!
ip vrf NEW
  rd 200:1
  route-target export 200:1
  route-target import 200:1
ip cef distributed

!
interface Loopback0
  ip address 1.1.1.1 255.255.255.255
!
interface ATM2/0/0
  mtu 1500
  no ip address
!
interface ATM2/0/0.10 tag-switching
  ip unnumbered Loopback0
  tag-switching ip
!
interface Ethernet2/1/0
  ip vrf forwarding NEW
  ip address 100.1.1.1 255.255.255.0

!
router ospf 100
  no log-adjacency-changes
  network 1.0.0.0 0.255.255.255 area 0
  network 100.1.1.0 0.0.0.255 area 0
!
router rip
  version 2
  network 100.0.0.0
  no auto-summary
!
  address-family ipv4 vrf NEW
  version 2
  redistribute bgp 200 metric 0
  network 100.0.0.0
  no auto-summary
  exit-address-family
!
router bgp 200
```

```
bgp log-neighbor-changes
neighbor 2.2.2.2 remote-as 200

neighbor 2.2.2.2 update-source Loopback0
no auto-summary
!
address-family ipv4 vrf NEW
redistribute rip
no auto-summary
no synchronization
exit-address-family
!
address-family vpnv4
neighbor 2.2.2.2 activate
neighbor 2.2.2.2 send-community extended
no auto-summary
exit-address-family
!
ip classless
!
```

P1

```
!
service timestamps debug uptime
service timestamps log uptime
!
ip subnet-zero
!
interface Loopback0
 ip address 4.4.4.4 255.255.255.255
 no ip directed-broadcast
!
interface ATM12/0/0
 ip unnumbered Loopback0
 no ip directed-broadcast

 tag-switching ip
!
interface ATM12/0/1
 ip unnumbered Loopback0
 no ip directed-broadcast

 tag-switching ip
!
router ospf 100
 network 4.0.0.0 0.255.255.255 area 0
!
ip classless
!
```

P2

```
!
service timestamps debug uptime
service timestamps log uptime
!
ip subnet-zero
!
interface Loopback0
```

```
ip address 3.3.3.3 255.255.255.255
no ip directed-broadcast
!
interface ATM0/1/1
ip unnumbered Loopback0
no ip directed-broadcast

tag-switching ip
!
interface ATM0/1/3
ip unnumbered Loopback0
no ip directed-broadcast

tag-switching ip

!
router ospf 100
network 3.0.0.0 0.255.255.255 area 0
!
ip classless
!
```

PE2

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

!
boot system flashw slot0:rsp-jsv-mz.121-5a
!

ip subnet-zero

!
ip vrf NEW
rd 200:1
route-target export 200:1
route-target import 200:1
ip cef distributed

!
interface Loopback0
ip address 2.2.2.2 255.255.255.255
!

interface FastEthernet3/0/0
ip vrf forwarding NEW
ip address 110.1.1.1 255.255.255.0

half-duplex
!

interface ATM3/1/0.1 tag-switching
ip unnumbered Loopback0
tag-switching ip
!
router ospf 100
log-adjacency-changes
network 2.0.0.0 0.255.255.255 area 0
!
router rip
version 2
```

```
network 110.0.0.0
no auto-summary
!
address-family ipv4 vrf NEW
version 2
redistribute bgp 200 metric 0
network 110.0.0.0
no auto-summary
exit-address-family
!
router bgp 200
  bgp log-neighbor-changes
  neighbor 1.1.1.1 remote-as 200

  neighbor 1.1.1.1 update-source Loopback0

  no auto-summary
  !
  address-family ipv4 vrf NEW
  redistribute rip
  no auto-summary
  no synchronization
  exit-address-family
  !
  address-family vpv4
  neighbor 1.1.1.1 activate
  neighbor 1.1.1.1 send-community extended
  no auto-summary
  exit-address-family
  !
ip classless
!
```

CE2

```
!
version 12.1

service timestamps debug uptime
service timestamps log uptime

!

boot system disk0:c7100-jo3s56i-mz.121-5.T.bin

!
ip subnet-zero

!
interface Loopback0
  ip address 30.1.1.1 255.255.255.0
!
interface Loopback1
  ip address 30.2.2.2 255.255.255.0
!
interface Loopback2
  ip address 30.3.3.3 255.255.255.0
!
interface FastEthernet0/0
  ip address 110.1.1.2 255.255.255.0

!
router rip
  version 2
  network 30.0.0.0
```

```
network 110.0.0.0
no auto-summary
!
```

显示命令

请使用这些命令测试您的网络正常运行：

- **show ip route** - 显示IP 路由表条目。
- **show ip rip database vrf** -显示在特定的VRF RIP数据库包含的信息。
- **show ip bgp vpnv4 vrf** -显示从BGP表的VPN地址信息。
- **show tag-switching interfaces detail** -显示关于有MPLS功能启用的一个或更多接口的信息。
- **show tag-switching tdp bindings** -显示从ATM LDP标签绑定数据库的请求的条目。
- **show tag-switching forwarding-table vrf** -检查用于特定路由的标签栈。

输出如下所示是这些的结果被输入的on命令在网络图中显示的设备。此输出显示网络正常运行。

CE1

```
Cisco4500#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1,
N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i -
IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * - candidate default, U -
per-user static route, o - ODR P - periodic downloaded static route Gateway of last resort is
not set 100.0.0.0/24 is subnetted, 1 subnets C 100.1.1.0 is directly connected, Ethernet0
110.0.0.0/24 is subnetted, 1 subnets R 110.1.1.0 [120/1] via 100.1.1.1, 00:00:14, Ethernet0
10.0.0.0/24 is subnetted, 3 subnets C 10.3.3.0 is directly connected, Loopback2 C 10.2.2.0 is
directly connected, Loopback1 C 10.1.1.0 is directly connected, Loopback0 30.0.0.0/24 is
subnetted, 3 subnets R 30.3.3.0 [120/1] via 100.1.1.1, 00:00:14, Ethernet0 R 30.2.2.0 [120/1]
via 100.1.1.1, 00:00:15, Ethernet0 R 30.1.1.0 [120/1] via 100.1.1.1, 00:00:15, Ethernet0
```

PE1

```
Cisco7500a#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
BGP D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type
1, N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * - candidate default,
U - per-user static route, o - ODR P - periodic downloaded static route Gateway of last resort
is not set 1.0.0.0/32 is subnetted, 1 subnets C 1.1.1.1 is directly connected, Loopback0
2.0.0.0/32 is subnetted, 1 subnets O 2.2.2.2 [110/4] via 4.4.4.4, 18:17:37, ATM2/0/0.10
3.0.0.0/32 is subnetted, 1 subnets O 3.3.3.3 [110/3] via 4.4.4.4, 18:17:37, ATM2/0/0.10
4.0.0.0/32 is subnetted, 1 subnets O 4.4.4.4 [110/2] via 4.4.4.4, 18:17:37, ATM2/0/0.10
Cisco7500a#show ip route vrf NEW Codes: C - connected, S - static, I - IGRP, R - RIP, M -
mobile, B - BGP D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA
external type 1, N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external
type 2, E - EGP i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * -
candidate default, U - per-user static route, o - ODR P - periodic downloaded static route
Gateway of last resort is not set 100.0.0.0/24 is subnetted, 1 subnets C 100.1.1.0 is directly
connected, Ethernet2/1/0 110.0.0.0/24 is subnetted, 1 subnets B 110.1.1.0 [200/0] via 2.2.2.2,
00:26:11 10.0.0.0/24 is subnetted, 3 subnets R 10.3.3.0 [120/1] via 100.1.1.2, 00:00:11,
Ethernet2/1/0 R 10.2.2.0 [120/1] via 100.1.1.2, 00:00:11, Ethernet2/1/0 R 10.1.1.0 [120/1] via
100.1.1.2, 00:00:11, Ethernet2/1/0 30.0.0.0/24 is subnetted, 3 subnets B 30.3.3.0 [200/1] via
2.2.2.2, 00:26:12 B 30.2.2.0 [200/1] via 2.2.2.2, 00:26:12 B 30.1.1.0 [200/1] via 2.2.2.2,
00:26:12 Cisco7500a#show ip rip database vrf NEW 10.0.0.0/8 auto-summary 10.1.1.0/24 [1] via
100.1.1.2, 00:00:18, Ethernet2/1/0 10.2.2.0/24 [1] via 100.1.1.2, 00:00:18, Ethernet2/1/0
10.3.3.0/24 [1] via 100.1.1.2, 00:00:18, Ethernet2/1/0 30.0.0.0/8 auto-summary 30.1.1.0/24
redistributed [1] via 2.2.2.2, 30.2.2.0/24 redistributed [1] via 2.2.2.2, 30.3.3.0/24
redistributed [1] via 2.2.2.2, 100.0.0.0/8 auto-summary 100.1.1.0/24 directly connected,
Ethernet2/1/0 110.0.0.0/8 auto-summary 110.1.1.0/24 redistributed [1] via 2.2.2.2,
Cisco7500a#show ip bgp vpnv4 vrf NEW BGP table version is 17, local router ID is 1.1.1.1 Status
codes: s suppressed, d damped, h history, * valid, > best, i - internal Origin codes: i - IGP, e
```

```

- EGP, ? - incomplete Network Next Hop Metric LocPrf Weight Path Route Distinguisher: 200:1
(default for vrf NEW) *> 10.1.1.0/24 100.1.1.2 1 32768 ? *> 10.2.2.0/24 100.1.1.2 1 32768 ? *>
10.3.3.0/24 100.1.1.2 1 32768 ? *>i30.1.1.0/24 2.2.2.2 1 100 0 ? *>i30.2.2.0/24 2.2.2.2 1 100 0
? *>i30.3.3.0/24 2.2.2.2 1 100 0 ? *> 100.1.1.0/24 0.0.0.0 0 32768 ? *>i110.1.1.0/24 2.2.2.2 0
100 0 ? Cisco7500a#show tag-switching interfaces Interface IP Tunnel Operational ATM2/0/0.10 Yes
No Yes (ATM tagging) Cisco7500a#show tag-switching interfaces detail Interface ATM2/0/0.10: IP
tagging enabled TSP Tunnel tagging not enabled Tagging operational Tagswitching turbo vector MTU
= 4470 ATM tagging: Tag VPI = 1 Tag VCI range = 33 - 65535 Control VC = 0/32 Cisco7500a#show
tag-switching ? atm-tdp ATM Tagging Protocol information cos-map Show Tag CoS ATM Multi-VC CoS
Map forwarding-table Show the Tag Forwarding Information Base (TFIB) interfaces Show per-
interface tag switching prefix-map Show Tag CoS Prefix Map tdp Tag Distribution Protocol
information Cisco7500a#show tag-switching tdp bindings tib entry: 1.1.1.1/32, rev 2 local
binding: tag: imp-null tib entry: 2.2.2.2/32, rev 23 local binding: tag: 27 tib entry:
3.3.3.3/32, rev 21 local binding: tag: 26 tib entry: 4.4.4.4/32, rev 10 local binding: tag: 28
Cisco7500a#show tag-switching atm-tdp bindings Destination: 4.4.4.4/32 Headend Router
ATM2/0/0.10 (1 hop) 1/33 Active, VCD=24 Destination: 3.3.3.3/32 Headend Router ATM2/0/0.10 (2
hops) 1/43 Active, VCD=25 Destination: 2.2.2.2/32 Headend Router ATM2/0/0.10 (3 hops) 1/42
Active, VCD=26 Destination: 1.1.1.1/32 Tailend Router ATM2/0/0.10 1/33 Active, VCD=24
Cisco7500a#show tag-switching forwarding-table vrf NEW Local Outgoing Prefix Bytes tag Outgoing
Next Hop tag tag or VC or Tunnel Id switched interface 29 Aggregate 100.1.1.0/24[V] 2080 30
Untagged 10.3.3.0/24[V] 0 Et2/1/0 100.1.1.2 31 Untagged 10.2.2.0/24[V] 0 Et2/1/0 100.1.1.2 32
Untagged 10.1.1.0/24[V] 0 Et2/1/0 100.1.1.2

```

P1

```

LS1010#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP D
- EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2
- OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i -
IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default U - per-user static route,
o - ODR T - traffic engineered route Gateway of last resort is not set 1.0.0.0/32 is subnetted,
1 subnets O 1.1.1.1 [110/2] via 1.1.1.1, 19:00:12, ATM12/0/0 2.0.0.0/32 is subnetted, 1 subnets
O 2.2.2.2 [110/3] via 3.3.3.3, 19:00:12, ATM12/0/1 3.0.0.0/32 is subnetted, 1 subnets O 3.3.3.3
[110/2] via 3.3.3.3, 19:00:12, ATM12/0/1 4.0.0.0/32 is subnetted, 1 subnets C 4.4.4.4 is
directly connected, Loopback0 LS1010#show tag-switching atm-tdp bindings Destination: 4.4.4.4/32
Tailend Switch ATM12/0/0 1/33 Active -> Terminating Active Tailend Switch ATM12/0/1 1/34 Active
-> Terminating Active Destination: 2.2.2.2/32 Transit ATM12/0/0 1/42 Active -> ATM12/0/1 1/35
Active Destination: 1.1.1.1/32 Transit ATM12/0/1 1/33 Active -> ATM12/0/0 1/33 Active
Destination: 3.3.3.3/32 Transit ATM12/0/0 1/43 Active -> ATM12/0/1 1/34 Active

```

P2

```

LS1010#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP D
- EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2
- OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i -
IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default U - per-user static route,
o - ODR Gateway of last resort is 10.118.1.21 to network 0.0.0.0 1.0.0.0/32 is subnetted, 1
subnets O 1.1.1.1 [110/3] via 4.4.4.4, 19:46:00, ATM0/1/1 2.0.0.0/32 is subnetted, 1 subnets O
2.2.2.2 [110/2] via 2.2.2.2, 19:46:00, ATM0/1/3 3.0.0.0/32 is subnetted, 1 subnets C 3.3.3.3 is
directly connected, Loopback0 4.0.0.0/32 is subnetted, 1 subnets O 4.4.4.4 [110/2] via 4.4.4.4,
19:46:00, ATM0/1/1 10.0.0.0/24 is subnetted, 1 subnets C 10.118.1.0 is directly connected,
Ethernet2/0/0 S* 0.0.0.0/0 [1/0] via 10.118.1.21 LS1010#show tag-switching atm-tdp bindings
Destination: 1.1.1.1/32 Transit ATM0/1/3 1/33 Active -> ATM0/1/1 1/33 Active Destination:
3.3.3.3/32 Tailend Switch ATM0/1/3 1/34 Active -> Terminating Active Tailend Switch ATM0/1/1
1/34 Active -> Terminating Active Destination: 4.4.4.4/32 Transit ATM0/1/3 1/35 Active ->
ATM0/1/1 1/34 Active Destination: 2.2.2.2/32 Transit ATM0/1/1 1/35 Active -> ATM0/1/3 1/33
Active

```

PE2

```

Cisco7500#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1,
N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i -
IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * - candidate default, U -
per-user static route, o - ODR P - periodic downloaded static route Gateway of last resort is
not set 1.0.0.0/32 is subnetted, 1 subnets O 1.1.1.1 [110/4] via 3.3.3.3, 02:58:46, ATM3/1/0.1

```



```

2.0.0.0/32 is subnetted, 1 subnets C 2.2.2.2 is directly connected, Loopback0 3.0.0.0/32 is
subnetted, 1 subnets O 3.3.3.3 [110/2] via 3.3.3.3, 02:58:46, ATM3/1/0.1 4.0.0.0/32 is
subnetted, 1 subnets O 4.4.4.4 [110/3] via 3.3.3.3, 02:58:46, ATM3/1/0.1 Cisco7500#show ip route
vrf NEW Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP D - EIGRP, EX -
EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2 - OSPF NSSA
external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i - IS-IS, L1 -
IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * - candidate default, U - per-user
static route, o - ODR P - periodic downloaded static route Gateway of last resort is not set
100.0.0.0/24 is subnetted, 1 subnets B 100.1.1.0 [200/0] via 1.1.1.1, 01:16:13 110.0.0.0/24 is
subnetted, 1 subnets C 110.1.1.0 is directly connected, FastEthernet3/0/0 10.0.0.0/24 is
subnetted, 3 subnets B 10.3.3.0 [200/1] via 1.1.1.1, 01:16:13 B 10.2.2.0 [200/1] via 1.1.1.1,
01:16:13 B 10.1.1.0 [200/1] via 1.1.1.1, 01:16:13 30.0.0.0/24 is subnetted, 3 subnets R 30.3.3.0
[120/1] via 110.1.1.2, 00:00:16, FastEthernet3/0/0 R 30.2.2.0 [120/1] via 110.1.1.2, 00:00:17,
FastEthernet3/0/0 R 30.1.1.0 [120/1] via 110.1.1.2, 00:00:17, FastEthernet3/0/0 Cisco7500#show
ip rip database vrf NEW 10.0.0.0/8 auto-summary 10.1.1.0/24 redistributed [1] via 1.1.1.1,
10.2.2.0/24 redistributed [1] via 1.1.1.1, 10.3.3.0/24 redistributed [1] via 1.1.1.1, 30.0.0.0/8
auto-summary 30.1.1.0/24 [1] via 110.1.1.2, 00:00:09, FastEthernet3/0/0 30.2.2.0/24 [1] via
110.1.1.2, 00:00:09, FastEthernet3/0/0 30.3.3.0/24 [1] via 110.1.1.2, 00:00:09,
FastEthernet3/0/0 100.0.0.0/8 auto-summary 100.1.1.0/24 redistributed [1] via 1.1.1.1,
110.0.0.0/8 auto-summary 110.1.1.0/24 directly connected, FastEthernet3/0/0 Cisco7500#show ip
bgp vpnv4 vrf NEW BGP table version is 17, local router ID is 2.2.2.2 Status codes: s
suppressed, d damped, h history, * valid, > best, i - internal Origin codes: i - IGP, e - EGP, ?
- incomplete Network Next Hop Metric LocPrf Weight Path Route Distinguisher: 200:1 (default for
vrf NEW) *>i10.1.1.0/24 1.1.1.1 1 100 0 ? *>i10.2.2.0/24 1.1.1.1 1 100 0 ? *>i10.3.3.0/24
1.1.1.1 1 100 0 ? *> 30.1.1.0/24 110.1.1.2 1 32768 ? *> 30.2.2.0/24 110.1.1.2 1 32768 ? *>
30.3.3.0/24 110.1.1.2 1 32768 ? *>i100.1.1.0/24 1.1.1.1 0 100 0 ? *> 110.1.1.0/24 0.0.0.0 0
32768 ? Cisco7500#show tag-switching interfaces Interface IP Tunnel Operational ATM3/1/0.1 Yes
No Yes (ATM tagging) Cisco7500#show tag-switching interfaces detail Interface ATM3/1/0.1: IP
tagging enabled TSP Tunnel tagging not enabled Tagging operational Tagswitching turbo vector MTU
= 4470 ATM tagging: Tag VPI = 1 Tag VCI range = 33 - 65535 Control VC = 0/32 Cisco7500#show tag-
switching ? atm-tdp ATM Tagging Protocol information cos-map Show Tag CoS ATM Multi-VC CoS Map
forwarding-table Show the Tag Forwarding Information Base (TFIB) interfaces Show per-interface
tag switching prefix-map Show Tag CoS Prefix Map tdp Tag Distribution Protocol information
Cisco7500#show tag-switching tdp bindings tib entry: 1.1.1.1/32, rev 25 local binding: tag: 26
tib entry: 2.2.2.2/32, rev 2 local binding: tag: imp-null tib entry: 3.3.3.3/32, rev 27 local
binding: tag: 27 tib entry: 4.4.4.4/32, rev 29 local binding: tag: 28 Cisco7500#show tag-
switching atm-tdp bindings Destination: 1.1.1.1/32 Headend Router ATM3/1/0.1 (3 hops) 1/33
Active, VCD=8 Destination: 3.3.3.3/32 Headend Router ATM3/1/0.1 (1 hop) 1/34 Active, VCD=6
Destination: 4.4.4.4/32 Headend Router ATM3/1/0.1 (2 hops) 1/35 Active, VCD=7 Destination:
2.2.2.2/32 Tailend Router ATM3/1/0.1 1/33 Active, VCD=8 Cisco7500#show tag-switching forwarding-
table vrf NEW Local Outgoing Prefix Bytes tag Outgoing Next Hop tag tag or VC or Tunnel Id
switched interface 33 Aggregate 110.1.1.0/24[V] 0 34 Untagged 30.3.3.0/24[V] 0 Fa3/0/0 110.1.1.2
35 Untagged 30.2.2.0/24[V] 0 Fa3/0/0 110.1.1.2 36 Untagged 30.1.1.0/24[V] 0 Fa3/0/0 110.1.1.2

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CE2

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Cisco7100#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1,
N2 - OSPF NSSA external type 2 E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP i -
IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area * - candidate default, U -
per-user static route, o - ODR P - periodic downloaded static route Gateway of last resort is
not set 100.0.0.0/24 is subnetted, 1 subnets R 100.1.1.0 [120/1] via 110.1.1.1, 00:00:19,
FastEthernet0/0 110.0.0.0/24 is subnetted, 1 subnets C 110.1.1.0 is directly connected,
FastEthernet0/0 10.0.0.0/24 is subnetted, 3 subnets R 10.3.3.0 [120/1] via 110.1.1.1, 00:00:19,
FastEthernet0/0 R 10.2.2.0 [120/1] via 110.1.1.1, 00:00:19, FastEthernet0/0 R 10.1.1.0 [120/1]
via 110.1.1.1, 00:00:19, FastEthernet0/0 30.0.0.0/24 is subnetted, 3 subnets C 30.3.3.0 is
directly connected, Loopback2 C 30.2.2.0 is directly connected, Loopback1 C 30.1.1.0 is directly
connected, Loopback0

```

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- [MPLS VPN 环境里中的信息包流](#)
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