整洁的配置示例用思科身份服务引擎

目录

[简介](#)
[先决条件](#)
[要求](#)
[使用的组件](#)
[配置](#)
[网络图](#)
[验证器交换机配置](#)
[请求方交换机配置](#)
[ISE配置](#)
[验证](#)
[请求方对验证器交换机的交换机验证](#)
[对请求方交换机的Windows PC验证](#)
[已验证客户端删除从网络](#)
[请求方交换机删除](#)
[没有dot1x的端口在请求方交换机](#)
[故障排除](#)

简介

本文描述网络边缘验证拓扑配置和行为(整洁)简单情况的。整洁使用客户端信息信令协议(CISP)为了传播客户端MAC地址和VLAN信息在请求方和验证器交换机之间。

在本例中配置示例，两个验证器交换机(也呼叫验证器)和请求方交换机(也呼叫请求方)执行802.1x验证;验证器验证请求方，反过来，验证测试的PC。

先决条件

要求

思科建议您有IEEE 802.1X验证标准的知识。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 有Cisco IOS软件的两Cisco Catalyst 3560系列交换机，版本12.2(55)SE8;一交换机作为验证器，并且其他作为请求方。
- 思科身份服务引擎(ISE)，版本1.2。
- PC用Microsoft Windows XP，服务包3。

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。

配置

此示例包括的配置示例：

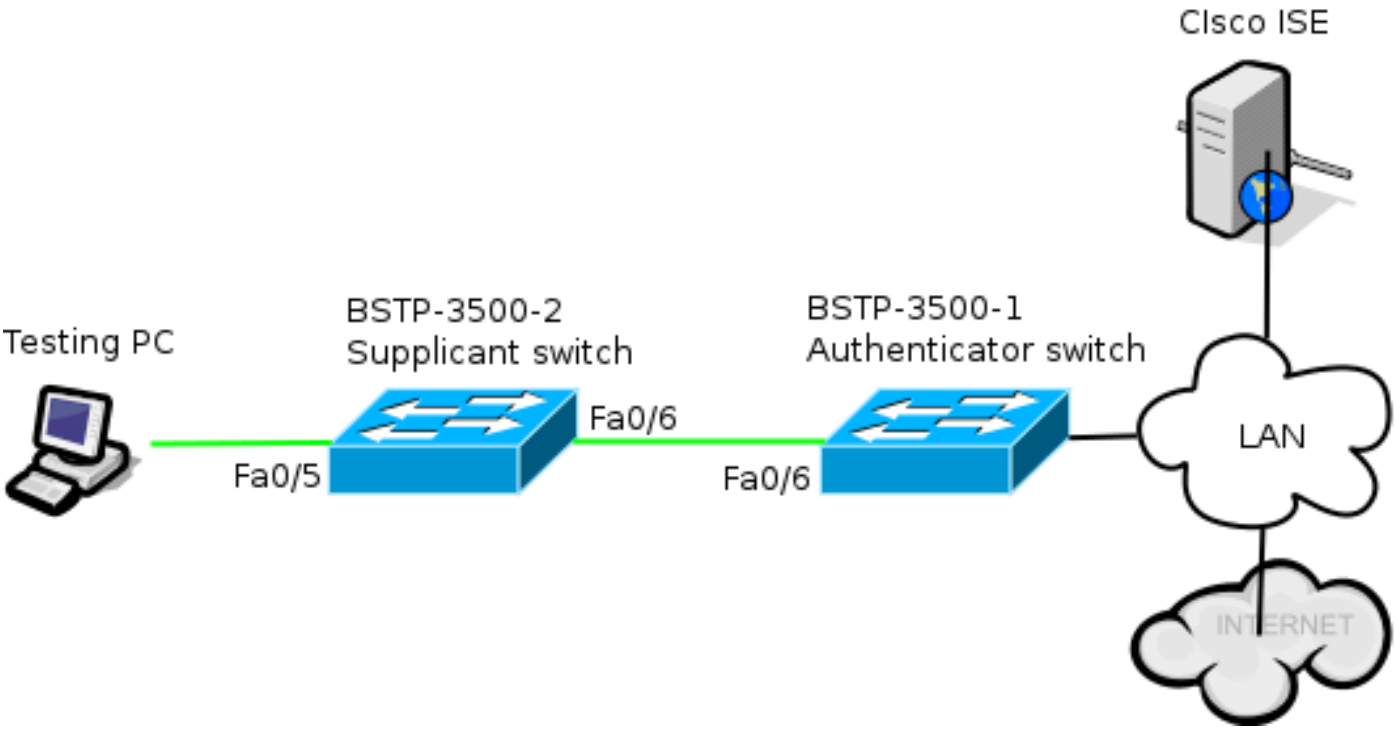
- 验证器交换机
- 请求方交换机
- 思科ISE

配置是最低必要的为了perfom此实验练习;他们也许是最佳的为或不满足其他需要。

> **Note**:使用命令查找工具（仅限注册用户）可获取有关本部分所使用命令的详细信息。

网络图

此网络图说明用于此示例的连接。黑色线路指示逻辑或物理连通性，并且绿色线路指示通过使用验证的链路802.1x。



验证器交换机配置

验证器包含为dot1x需要的基本元素。在本例中，是特定对整洁的命令或CISP粗体的。

这是基本认证、授权和核算(AAA)配置：

```
aaa new-model
aaa authentication dot1x default group radius
aaa authorization network default group radius
aaa accounting dot1x default start-stop group radius

radius-server host 10.48.66.107 auth-port 1812 acct-port 1813 key cisco

! Enable authenticator switch to authenticate the supplicant switch.
dot1x system-auth-control
! Enable CISP framework.
cisp enable

! configure uplink port as access and dot1x authentication.
interface FastEthernet0/6
switchport mode access
authentication port-control auto
dot1x pae authenticator
spanning-tree portfast
```

CISP启用全局，并且互联的端口在验证器和接入模式配置。

请求方交换机配置

准确请求方配置是关键为了整个设置能工作正如所料。此配置示例包含典型AAA和dot1x配置。

这是基本AAA配置：

```
aaa new-model
aaa authentication dot1x default group radius
aaa authorization network default group radius
aaa accounting dot1x default start-stop group radius

radius-server host 10.48.66.107 auth-port 1812 acct-port 1813 key cisco

! Enable supplicant switch to authenticate devices connected
dot1x system-auth-control

! Forces the switch to send only multicast EAPOL packets when it receives either
unicast or multicast packets, which allows NEAT to work on the supplicant
switch in all host modes.
dot1x supplicant force-multicast

! Enable CISP framework operation.
cisp enable
```

请求方应该配置凭证，并且应该供应将使用的可扩展的认证协议(EAP)方法。

请求方能通过安全协议使用消息摘要5 (MD5)和EAP灵活验证(快速) (在其他EAP类型中)验证在CISP的情况下。为了保持ISE配置到最低，此示例使用EAP-MD5请求方的验证对验证器。(默认将强制使用EAP-FAST，要求受保护的访问证件[PAC]设置;本文不包括该方案。)

```
! configure EAP mode used by supplicant switch to authenticate itself to
authenticator switch eap profile EAP_PRO
method md5
```

```
! Configure credentials use by supplicant switch during that authentication.
dot1x credentials CRED_PRO
 username bsnsswitch
password 0 C1sco123
```
请求方的连接对验证器已经配置是中继端口(与在验证器的接入端口配置对比)。在此阶段，这预计;当ISE返回正确属性，配置将动态地更改。

```
interface FastEthernet0/6
switchport trunk encapsulation dot1q
 switchport mode trunk
dot1x pae supplicant
 dot1x credentials CRED_PRO
 dot1x supplicant eap profile EAP_PRO
```
连接对Windows PC的端口有一最小配置和显示此处供仅参考。

```
interface FastEthernet0/6
switchport trunk encapsulation dot1q
 switchport mode trunk
dot1x pae supplicant
 dot1x credentials CRED_PRO
 dot1x supplicant eap profile EAP_PRO
```

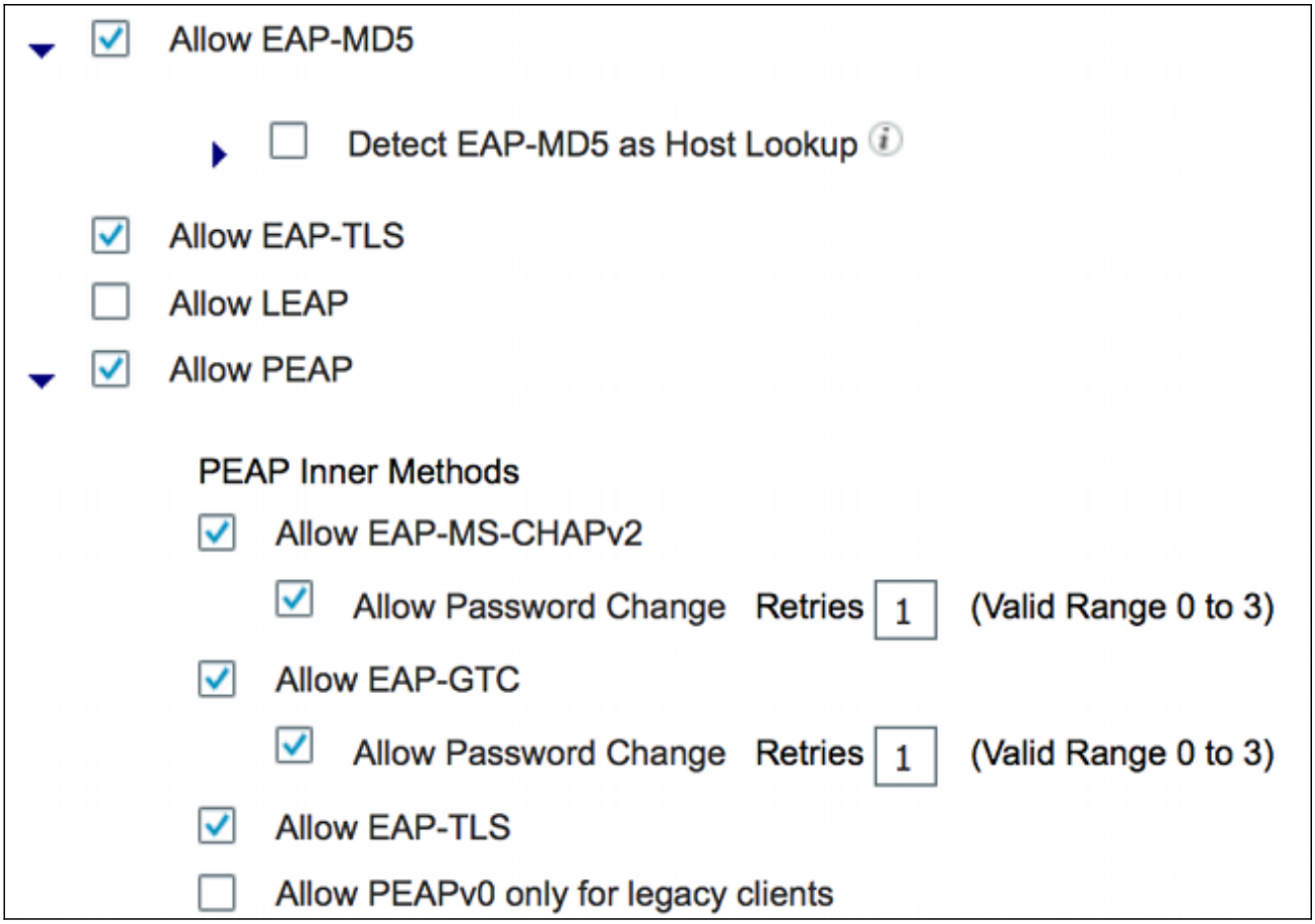
ISE配置

此步骤描述如何设置一基本ISE配置。

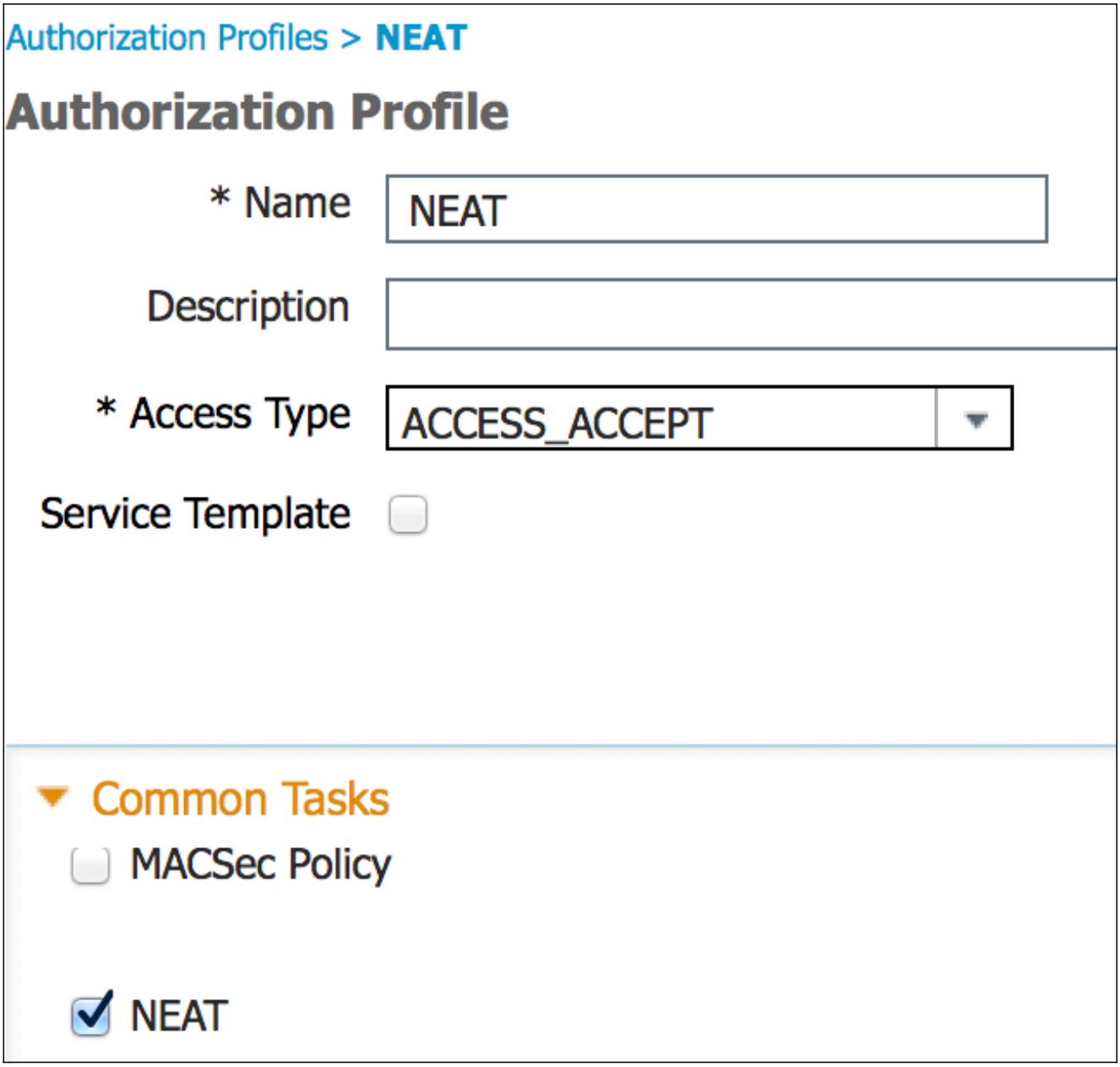
1. 启用必要的验证协议。

   在本例中，有线的dot1x允许EAP-MD5验证请求方到验证器并且允许Protected Extensible Authentication Protocol (PEAP) -微软询问握手认证协议版本2 (MSCHAPv2)验证Windows PC到请求方。

   导航对**策略>结果>验证>允许协议**，选择有线的dot1x使用的**协议服务列表**，并且保证在此步骤的协议启用。



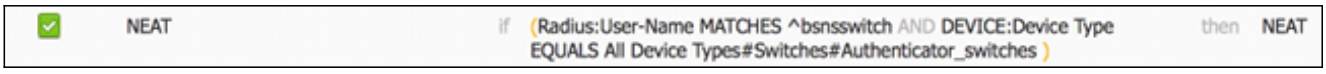
2. 创建授权策略。导航对**策略>结果>授权>授权策略**，并且创建或者更新策略，因此包含整洁，一个返回的属性。以下即是此类策略的一个示例：



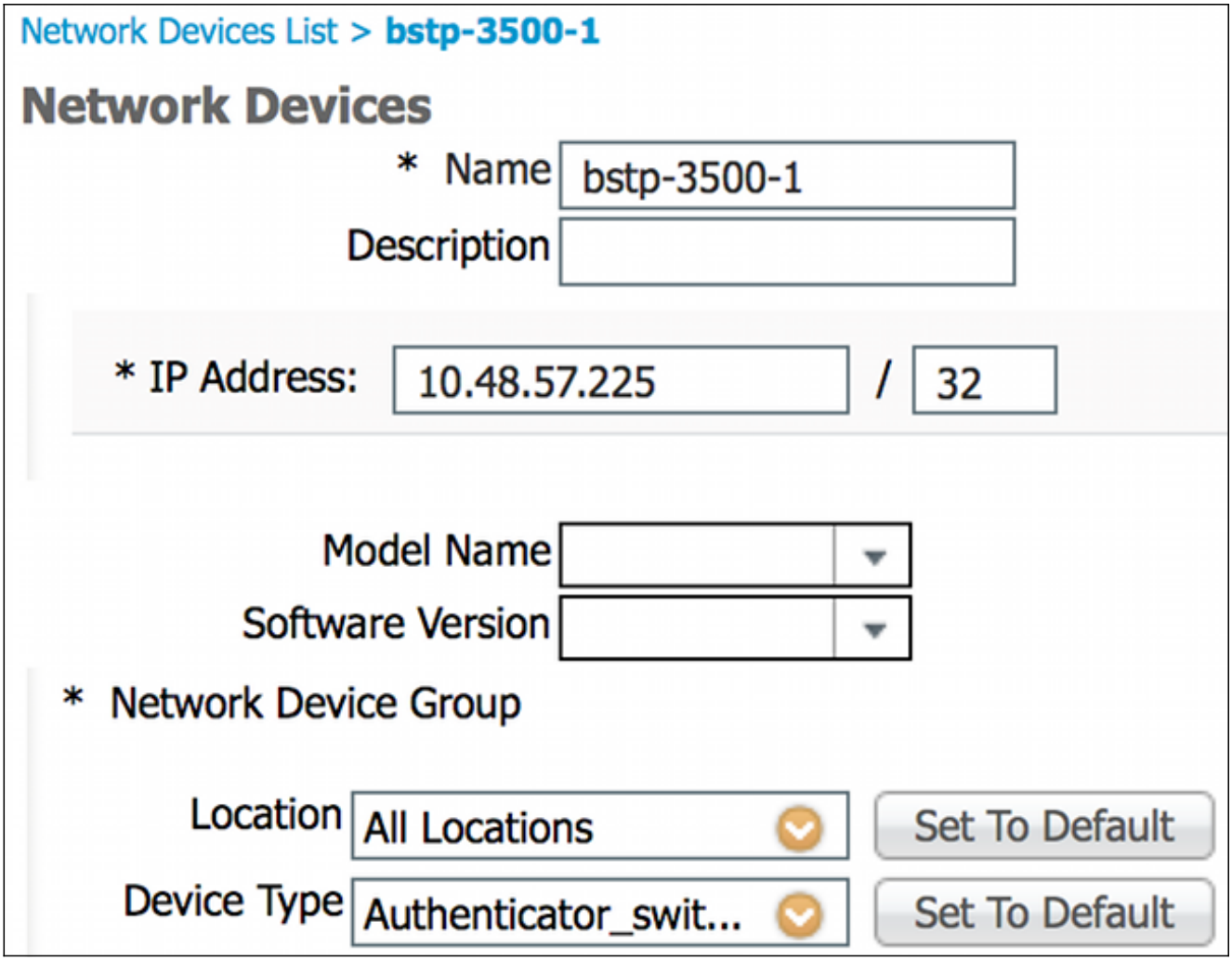
当整洁的选项打开时，作为授权一部分， ISE返回device-traffic-class=switch。此选项是必要为了更改验证器的端口模式从访问的建立中继。

3. 创建授权规则使用此配置文件。导航对**策略>授权**，并且创建或者更新规则。

   在本例中，一个特殊设备组呼叫Authenticator_switches创建，并且所有恳求者发送开始与bsnsswitch的用户名。



4. 添加交换机到适合的组。导航到**Administration >网络资源>网络设备**，并且单击**添加**。



在本例中， BSTP-3500-1 (验证器)是Authenticator_switches组的一部分;BSTP-3500-2 (请求方)不需要是此组的一部分。

验证

使用本部分可确认配置能否正常运行。此部分描述两种行为：

- 在交换机之间的验证
- 在Windows PC和请求方之间的验证

它也解释三个另外的情况：

- 一个已验证客户端的删除从网络
- 请求方的删除
- 没有dot1x的端口在请求方

注意：

命令输出解释程序工具（仅限注册用户）支持某些 **show** 命令。请使用Output Interpreter Tool为了查看show命令输出分析。

使用 **debug** 命令之前，请参阅有关 Debug 命令的重要信息。

请求方对验证器交换机的交换机验证

在本例中，请求方验证对验证器。在进程的步骤是：

1. 请求方配置并且插入端口fastethernet0/6。dot1x交换造成请求方使用EAP为了发送一个预先配置的用户名和密码到验证器。
2. 验证器进行RADIUS交换并且为ISE验证提供凭证。
3. 如果凭证正确， ISE返回整洁要求的属性(device-traffic-class=switch)，并且验证器更改其从访问的交换端口模式建立中继。

此示例显示CISP信息交换在交换机之间的：

```
bstp-3500-1#debug cisp all
Oct 15 13:51:03.672: %AUTHMGR-5-START: Starting 'dot1x' for client
(001b.0d55.2187) on Interface Fa0/6 AuditSessionID 0A3039E10000000600757ABB
Oct 15 13:51:03.723: %DOT1X-5-SUCCESS: Authentication successful for client
(001b.0d55.2187) on Interface Fa0/6 AuditSessionID
Oct 15 13:51:03.723: %AUTHMGR-7-RESULT: Authentication result 'success' from
'dot1x' for client (001b.0d55.2187) on Interface Fa0/6 AuditSessionID
0A3039E10000000600757ABB
Oct 15 13:51:03.723: Applying command... 'no switchport access vlan 1' at Fa0/6
Oct 15 13:51:03.739: Applying command... 'no switchport nonegotiate' at Fa0/6
Oct 15 13:51:03.748: Applying command... 'switchport trunk encapsulation dot1q'
at Fa0/6
Oct 15 13:51:03.756: Applying command... 'switchport mode trunk' at Fa0/6
Oct 15 13:51:03.756: Applying command... 'switchport trunk native vlan 1' at
Fa0/6
Oct 15 13:51:03.764: Applying command... 'spanning-tree portfast trunk' at Fa0/6
Oct 15 13:51:04.805: %AUTHMGR-5-SUCCESS: Authorization succeeded for client
(001b.0d55.2187) on Interface Fa0/6 AuditSessionID 0A3039E10000000600757ABB

Oct 15 13:51:04.805: CISP-EVENT (Fa0/6): Received action Run Authenticator
Oct 15 13:51:04.805: CISP-EVENT (Fa0/6): Authenticator received event Start in
state Not Running
Oct 15 13:51:04.805: CISP-EVENT (Fa0/6): Authenticator state changed to Waiting
link UP
Oct 15 13:51:04.805: CISP-EVENT (Fa0/6): Sync supp_id: 0
Oct 15 13:51:05.669: %LINK-3-UPDOWN: Interface FastEthernet0/6, changed state to
up
Oct 15 13:51:06.793: CISP-EVENT (Fa0/6): Received action Run Authenticator
Oct 15 13:51:06.793: CISP-EVENT (Fa0/6): Authenticator received event Start in
state Waiting link UP (no-op)
Oct 15 13:51:07.799: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/6, changed state to up
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Authenticator received event Link UP in
state Waiting link UP
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:07.799: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x20 Length:0x0018
Type:HELLO
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Proposing CISP version: 1
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Started 'hello' timer (5s)
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Authenticator state changed to Idle
Oct 15 13:51:07.799: CISP-EVENT (Fa0/6): Sync supp_id: 0
Oct 15 13:51:07.799: CISP-EVENT: Received action Start Tick Timer
Oct 15 13:51:07.799: CISP-EVENT: Started CISP tick timer
Oct 15 13:51:12.942: CISP-EVENT (Fa0/6): 'hello' timer expired
Oct 15 13:51:12.942: CISP-EVENT (Fa0/6): Authenticator received event Timeout in
state Idle
Oct 15 13:51:12.942: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:12.942: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x20 Length:0x0018
```

```
Type:HELLO
Oct 15 13:51:12.942: CISP-EVENT (Fa0/6): Proposing CISP version: 1
Oct 15 13:51:12.942: CISP-EVENT (Fa0/6): Started 'hello' timer (5s)
Oct 15 13:51:18.084: CISP-EVENT (Fa0/6): 'hello' timer expired
Oct 15 13:51:18.084: CISP-EVENT (Fa0/6): Authenticator received event Timeout in
state Idle
Oct 15 13:51:18.084: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:18.084: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x20 Length:0x0018
Type:HELLO
Oct 15 13:51:18.084: CISP-EVENT (Fa0/6): Proposing CISP version: 1
Oct 15 13:51:18.084: CISP-EVENT (Fa0/6): Started 'hello' timer (5s)
Oct 15 13:51:23.226: CISP-EVENT (Fa0/6): 'hello' timer expired
Oct 15 13:51:23.226: CISP-EVENT (Fa0/6): Authenticator received event Timeout in
state Idle
Oct 15 13:51:23.226: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:23.226: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x20 Length:0x0018
Type:HELLO
Oct 15 13:51:23.226: CISP-EVENT (Fa0/6): Proposing CISP version: 1
Oct 15 13:51:23.226: CISP-EVENT (Fa0/6): Started 'hello' timer (5s)
Oct 15 13:51:28.377: CISP-EVENT (Fa0/6): 'hello' timer expired
Oct 15 13:51:28.377: CISP-EVENT (Fa0/6): Authenticator received event Timeout in
state Idle
Oct 15 13:51:29.400: CISP-EVENT: Stopped CISP tick timer
Oct 15 13:51:36.707: CISP-RXPAK (Fa0/6): Code:REQUEST ID:0x22 Length:0x001C
Type:REGISTRATION
Oct 15 13:51:36.707: Payload: 0200E84B
Oct 15 13:51:36.707: CISP-EVENT (Fa0/6): Authenticator received event Receive
Packet in state Idle
Oct 15 13:51:36.707: CISP-EVENT (Fa0/6): Proposed CISP version: 1
Oct 15 13:51:36.707: CISP-EVENT (Fa0/6): Negotiated CISP version: 1
Oct 15 13:51:36.707: CISP-EVENT (Fa0/6): Sync supp_id: 59467
Oct 15 13:51:36.707: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:36.707: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x22 Length:0x001C
Type:REGISTRATION
Oct 15 13:51:36.707: Payload: 01000000
Oct 15 13:51:36.724: CISP-RXPAK (Fa0/6): Code:REQUEST ID:0x23 Length:0x003A
Type:ADD_CLIENT
Oct 15 13:51:36.724: Payload: 010011020009001B0D5521C10300050 ...
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Authenticator received event Receive
Packet in state Idle
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Adding client 001b.0d55.21c1 (vlan: 200)
to authenticator list
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Notifying interest parties about new
downstream client 001b.0d55.21c1 (vlan: 200)
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Adding client info at Authenticator
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Adding client 001b.0d55.21c0 (vlan: 1)
to authenticator list
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Notifying interest parties about new
downstream client 001b.0d55.21c0 (vlan: 1)
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Adding client info at Authenticator
Oct 15 13:51:36.724: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 13:51:36.724: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x23 Length:0x0018
Type:ADD_CLIENT
```

一旦认证和授权成功， CISP交换发生。每交换有REQUEST，由请求方发送和一答复，担当一回复和确认从验证器。

两明显的交换进行：注册和ADD_CLIENT。在注册交换期间，请求方通知验证器是CISP有能力，并且验证器然后确认此消息。ADD_CLIENT交换用于通知关于设备的验证器连接对恳求者的本地端口。如同注册， ADD-CLIENT在请求方启动并且由验证器确认。

输入这些显示命令为了验证通信、角色和地址：

```
bstp-3500-1#show cisp clients

Authenticator Client Table:
--------------------------
MAC Address VLAN Interface
--------------------------------
001b.0d55.21c1 200 Fa0/6
001b.0d55.21c0 1 Fa0/6

bstp-3500-1#show cisp registrations

Interface(s) with CISP registered user(s):
-----------------------------------------
Fa0/6
Auth Mgr (Authenticator)
```

在本例中，验证器角色正确地分配到正确接口(fa0/6)，并且两MAC地址注册。MAC地址是在端口fa0/6的请求方在VLAN1和在VLAN200。

dot1x验证会话的验证可能当前进行。上行交换机的fa0/6端口已经验证。这是被触发的dot1x交换，当BSTP-3500-2 (请求方)时插入在：

```
bstp-3500-1#show cisp clients

Authenticator Client Table:
--------------------------
MAC Address VLAN Interface
--------------------------------
001b.0d55.21c1 200 Fa0/6
001b.0d55.21c0 1 Fa0/6

bstp-3500-1#show cisp registrations

Interface(s) with CISP registered user(s):
-----------------------------------------
Fa0/6
Auth Mgr (Authenticator)
```

正如所料在此阶段，没有请求方的会话：

```
bstp-3500-1#show cisp clients

Authenticator Client Table:
--------------------------
MAC Address VLAN Interface
--------------------------------
001b.0d55.21c1 200 Fa0/6
001b.0d55.21c0 1 Fa0/6

bstp-3500-1#show cisp registrations

Interface(s) with CISP registered user(s):
-----------------------------------------
Fa0/6
Auth Mgr (Authenticator)
```

对请求方交换机的Windows PC验证

在本例中， Windows PC验证对请求方。在进程的步骤是：

1. Windows PC插入BSTP-3500-2的(请求方) FastEthernet0/5端口。
2. 请求方进行认证和授权与ISE。
3. 请求方通知验证器一个新的客户端在端口连接。

这是从请求方的通信：

```
Oct 15 14:19:37.207: %AUTHMGR-5-START: Starting 'dot1x' for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID 0A3039E200000013008F77FA
Oct 15 14:19:37.325: %DOT1X-5-SUCCESS: Authentication successful for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID
Oct 15 14:19:37.325: %AUTHMGR-7-RESULT: Authentication result 'success' from
'dot1x' for client (c464.13b4.29c3) on Interface Fa0/5 AuditSessionID
0A3039E200000013008F77FA
Oct 15 14:19:37.341: CISP-EVENT (Fa0/5): Received action Add Client
Oct 15 14:19:37.341: CISP-EVENT (Fa0/5): Adding client c464.13b4.29c3 (vlan: 200)
to supplicant list
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Supplicant received event Add Client in
state Idle
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Adding client c464.13b4.29c3 (vlan: 200)
to the ADD list
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Adding client c464.13b4.29c3 (vlan: 200)
to ADD CLIENT req
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 14:19:37.341: CISP-TXPAK (Fa0/6): Code:REQUEST ID:0x24 Length:0x0029
Type:ADD_CLIENT
Oct 15 14:19:37.341: Payload: 010011020009C46413B429C30300050 ...
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Started 'retransmit' timer (30s)
Oct 15 14:19:37.341: CISP-EVENT: Started CISP tick timer
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Supplicant state changed to Request
Oct 15 14:19:37.341: CISP-RXPAK (Fa0/6): Code:RESPONSE ID:0x24 Length:0x0018
Type:ADD_CLIENT
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Supplicant received event Receive Packet
in state Request
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Stopped 'retransmit' timer
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): All Clients implicitly ACKed
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Supplicant state changed to Idle
Oct 15 14:19:38.356: %AUTHMGR-5-SUCCESS: Authorization succeeded for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID 0A3039E200000013008F77FA
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Received action Run Authenticator
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Authenticator received event Start in
state Not Running
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Authenticator state changed to Waiting
link UP
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Sync supp_id: 0
Oct 15 14:19:38.373: CISP-EVENT: Stopped CISP tick timer
Oct 15 14:19:39.162: %LINK-3-UPDOWN: Interface FastEthernet0/5, changed state to
up
```

ADD_CLIENT交换发生，但是注册交换不是需要的。

为了验证在请求方的行为，请输入**显示cisp注册**命令：

```
Oct 15 14:19:37.207: %AUTHMGR-5-START: Starting 'dot1x' for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID 0A3039E200000013008F77FA
Oct 15 14:19:37.325: %DOT1X-5-SUCCESS: Authentication successful for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID
Oct 15 14:19:37.325: %AUTHMGR-7-RESULT: Authentication result 'success' from
'dot1x' for client (c464.13b4.29c3) on Interface Fa0/5 AuditSessionID
0A3039E200000013008F77FA
Oct 15 14:19:37.341: CISP-EVENT (Fa0/5): Received action Add Client
Oct 15 14:19:37.341: CISP-EVENT (Fa0/5): Adding client c464.13b4.29c3 (vlan: 200)
```

```
to supplicant list
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Supplicant received event Add Client in
state Idle
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Adding client c464.13b4.29c3 (vlan: 200)
to the ADD list
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Adding client c464.13b4.29c3 (vlan: 200)
to ADD CLIENT req
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 14:19:37.341: CISP-TXPAK (Fa0/6): Code:REQUEST ID:0x24 Length:0x0029
Type:ADD_CLIENT
Oct 15 14:19:37.341: Payload: 010011020009C46413B429C30300050 ...
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Started 'retransmit' timer (30s)
Oct 15 14:19:37.341: CISP-EVENT: Started CISP tick timer
Oct 15 14:19:37.341: CISP-EVENT (Fa0/6): Supplicant state changed to Request
Oct 15 14:19:37.341: CISP-RXPAK (Fa0/6): Code:RESPONSE ID:0x24 Length:0x0018
Type:ADD_CLIENT
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Supplicant received event Receive Packet
in state Request
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Stopped 'retransmit' timer
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): All Clients implicitly ACKed
Oct 15 14:19:37.350: CISP-EVENT (Fa0/6): Supplicant state changed to Idle
Oct 15 14:19:38.356: %AUTHMGR-5-SUCCESS: Authorization succeeded for client
(c464.13b4.29c3) on Interface Fa0/5 AuditSessionID 0A3039E200000013008F77FA
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Received action Run Authenticator
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Authenticator received event Start in
state Not Running
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Authenticator state changed to Waiting
link UP
Oct 15 14:19:38.356: CISP-EVENT (Fa0/5): Sync supp_id: 0
Oct 15 14:19:38.373: CISP-EVENT: Stopped CISP tick timer
Oct 15 14:19:39.162: %LINK-3-UPDOWN: Interface FastEthernet0/5, changed state to
up
```

请求方有一请求方的角色往验证器(fa0/6接口)的和一验证器的角色往Windows PC (fa0/5接口)的。

为了验证在验证器的行为，请输入**显示cisp客户端**命令：

```
bstp-3500-1#show cisp clients

Authenticator Client Table:
---------------------------
MAC Address VLAN Interface
---------------------------------
001b.0d55.21c1 200 Fa0/6
001b.0d55.21c0 1 Fa0/6
c464.13b4.29c3 200 Fa0/6
```

新的MAC地址出现在验证器在VLAN 200下。它是在请求方的AAA请求被观察的MAC地址。

验证会话应该表明同一个设备在请求方fa0/5端口连接：

```
bstp-3500-2#show authentication sessions

Interface MAC Address Method Domain Status Session ID
Fa0/5 c464.13b4.29c3 dot1x DATA Authz Success 0A3039E20000001501018B58
```

已验证客户端删除从网络

当客户端删除(例如，如果端口被关闭)，验证器通过DELETE_CLIENT交换通知。

```
Oct 15 15:54:05.415: CISP-RXPAK (Fa0/6): Code:REQUEST ID:0x25 Length:0x0029
Type:DELETE_CLIENT
Oct 15 15:54:05.415: Payload: 010011020009C46413B429C30300050 ...
Oct 15 15:54:05.415: CISP-EVENT (Fa0/6): Authenticator received event Receive
Packet in state Idle
Oct 15 15:54:05.415: CISP-EVENT (Fa0/6): Removing client c464.13b4.29c3
(vlan: 200) from authenticator list
Oct 15 15:54:05.415: CISP-EVENT (Fa0/6): Notifying interest parties about
deletion of downstream client c464.13b4.29c3 (vlan: 200)
Oct 15 15:54:05.415: CISP-EVENT (Fa0/6): Transmitting a CISP Packet
Oct 15 15:54:05.415: CISP-TXPAK (Fa0/6): Code:RESPONSE ID:0x25 Length:0x0018
Type:DELETE_CLIENT
```

请求方交换机删除

当拔掉请求方或删除时，验证器引入原始配置回到端口为了避免安全性问题。

```
Oct 15 15:57:31.257: Applying command... 'no switchport nonegotiate' at Fa0/6
Oct 15 15:57:31.273: Applying command... 'switchport mode access' at Fa0/6
Oct 15 15:57:31.273: Applying command... 'no switchport trunk encapsulation
dot1q' at Fa0/6
Oct 15 15:57:31.290: Applying command... 'no switchport trunk native vlan 1' at
Fa0/6
Oct 15 15:57:31.299: Applying command... 'no spanning-tree portfast trunk' at
Fa0/6
Oct 15 15:57:31.307: Applying command... 'switchport access vlan 1' at Fa0/6
Oct 15 15:57:31.315: Applying command... 'spanning-tree portfast' at Fa0/6
Oct 15 15:57:32.247: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/6, changed state to down
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Authenticator received event Link DOWN
in state Idle
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Removing client 001b.0d55.21c1
(vlan: 200) from authenticator list
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Notifying interest parties about
deletion of downstream client 001b.0d55.21c1 (vlan: 200)
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Removing client 001b.0d55.21c0 (vlan: 1)
from authenticator list
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Notifying interest parties about
deletion of downstream client 001b.0d55.21c0 (vlan: 1)
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Authenticator state changed to Not
Running
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Sync supp_id: 0
Oct 15 15:57:33.262: %LINK-3-UPDOWN: Interface FastEthernet0/6, changed state
to down
```

同时，请求方删除代表从CISP表的请求方的客户端并且撤销在该接口的CISP。

没有dot1x的端口在请求方交换机

从请求方被传播到验证器的CISP信息担当只有实施另一块层。请求方通知关于连接对它的所有的验证器允许MAC地址。

典型地被误会的方案是这：如果没有启用的dot1x的设备在端口插入，了解MAC地址并且被传播对上行交换机通过CISP。

验证器允许来自通过CISP了解的所有客户端的通信。

实质上，它是限制设备访问，通过dot1x或其他方法和传播MAC地址和VLAN信息的请求方角色对验证器。验证器作为在那些更新提供的信息的实施者。

为例，新的VLAN (VLAN300)在两交换机和设备创建插入在请求方的端口fa0/4。波尔特fa0/4是没有为dot1x配置的一个简单接入端口。

从请求方的此输出显示一个新建的已注册端口：

```
Oct 15 15:57:31.257: Applying command... 'no switchport nonegotiate' at Fa0/6
Oct 15 15:57:31.273: Applying command... 'switchport mode access' at Fa0/6
Oct 15 15:57:31.273: Applying command... 'no switchport trunk encapsulation
dot1q' at Fa0/6
Oct 15 15:57:31.290: Applying command... 'no switchport trunk native vlan 1' at
Fa0/6
Oct 15 15:57:31.299: Applying command... 'no spanning-tree portfast trunk' at
Fa0/6
Oct 15 15:57:31.307: Applying command... 'switchport access vlan 1' at Fa0/6
Oct 15 15:57:31.315: Applying command... 'spanning-tree portfast' at Fa0/6
Oct 15 15:57:32.247: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/6, changed state to down
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Authenticator received event Link DOWN
in state Idle
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Removing client 001b.0d55.21c1
(vlan: 200) from authenticator list
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Notifying interest parties about
deletion of downstream client 001b.0d55.21c1 (vlan: 200)
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Removing client 001b.0d55.21c0 (vlan: 1)
from authenticator list
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Notifying interest parties about
deletion of downstream client 001b.0d55.21c0 (vlan: 1)
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Authenticator state changed to Not
Running
Oct 15 15:57:32.247: CISP-EVENT (Fa0/6): Sync supp_id: 0
Oct 15 15:57:33.262: %LINK-3-UPDOWN: Interface FastEthernet0/6, changed state
to down
```

在验证器，新的MAC地址是可视在VLAN 300。

```
bstp-3500-1#show cisp clients

Authenticator Client Table:
---------------------------
MAC Address VLAN Interface
--------------------------------
001b.0d55.21c1 200 Fa0/6
001b.0d55.21c0 1 Fa0/6
001b.0d55.21c2 300 Fa0/6
c464.13b4.29c3 200 Fa0/6
 68ef.bdc7.13ff 300 Fa0/6
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

> **Note**:
>
> 命令输出解释程序工具（仅限注册用户）支持某些 **show** 命令。请使用Output Interpreter

Tool为了查看show命令输出分析。

使用 **debug** 命令之前，请参阅有关 Debug 命令的重要信息。

这些help命令您排除故障整洁和CISP;本文包括大多数的示例：

- **全调试的cisp**显示CISP信息交换在交换机之间的。
- **显示cisp摘要**-显示CISP接口状态的摘要在交换机的。
- **显示cisp注册**-指示参加CISP交换，那些接口角色的接口，并且接口是否是一部分的整洁。
- **显示cisp客户端**-显示已知客户端MAC地址和他们的位置表(VLAN和接口)。这主要从验证器是有用的。