如何在 RADIUS 服务器的拨号接口上应用访问列表

目录

简介

本文展示如何运用访问列表到拨号接口用RADIUS服务器。有两个可能的方法：

- 定义在路由器的编号的访问控制列表，然后参考在RADIUS服务器的编号的访问控制列表。多数Cisco IOS软件版本支持此。例如，请定义在路由器的编号的访问控制列表并且参考他们在服务器。
- 定义在服务器的整个访问列表。Cisco IOS软件版本11.3或以后为此每个用户的方法要求。例如，请定义在RADIUS服务器的访问列表(而不是在NAS)。当呼叫连接时， NAS验证呼叫用RADIUS服务器。与所有认证信息一起，服务器返回访问列表对然后应用对拨号接口的NAS。

注意： 对于ISDN，您必须使用**每个用户的方法，**并且您必须配置在路由器的虚拟配置文件。这些为在[配置虚拟配置文件的](#)Cisco IOS软件版本11.3描述。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本。

- Cisco IOS软件版本11.1或以上(请定义在路由器的访问列表)
- Cisco IOS软件版本11.3或以上(请定义在服务器的访问列表)
- Cisco Secure ACS UNIX或Cisco Secure ACS for Windows 2.x或Livingston RADIUS或者Merit RADIUS

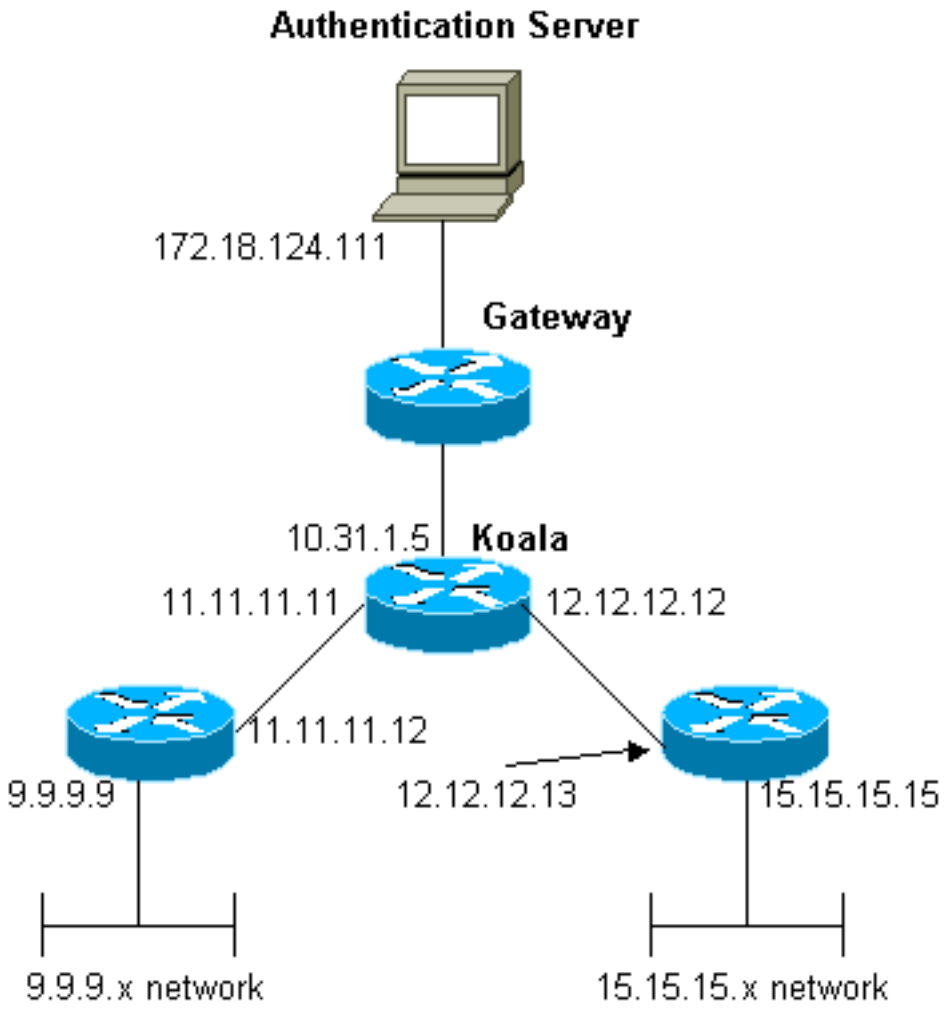
本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

网络图

此网络用于两示例：



定义在路由器的编号的访问控制列表

路由器配置

```
Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname koala
!
aaa new-model
!
!--- The following three lines of the configuration !---
are specific to Cisco IOS Software Release 12.0.5.T and
later. !--- See below this configuration for commands !-
-- for other Cisco IOS Software Releases. ! aaa
authentication login default local group radius aaa
authentication ppp default if-needed group radius aaa
authorization network default group radius enable secret
5 $1$mnZQ$g6XdsgVnnYjEa.l7v.Pij1 enable password ww !
username john password 0 doe ! ip subnet-zero ! cns
event-service server ! interface Ethernet0 ip address
10.31.1.5 255.255.255.0 no ip directed-broadcast no mop
enabled ! interface Serial0 ip address 11.11.11.11
255.255.255.0 no ip directed-broadcast no ip mroute-
cache no fair-queue ! interface Serial1 ip address
12.12.12.12 255.255.255.0 no ip directed-broadcast !
interface Async1 ip unnumbered Ethernet0 no ip directed-
broadcast encapsulation ppp no ip route-cache no ip
mroute-cache async mode dedicated peer default ip
address pool mypool fair-queue 64 16 0 no cdp enable ppp
authentication chap ! ip local pool mypool 1.1.1.1
1.1.1.5 ip classless ip route 0.0.0.0 0.0.0.0 10.31.1.1
ip route 9.9.9.0 255.255.255.0 11.11.11.12 ip route
15.15.15.0 255.255.255.0 12.12.12.13 no ip http server !
access-list 101 permit icmp 1.1.1.0 0.0.0.255 9.9.9.0
0.0.0.255 access-list 101 permit tcp 1.1.1.0 0.0.0.255
15.15.15.0 0.0.0.255 !--- This is the access-list that
is specified by the RADIUS server. dialer-list 1
protocol ip permit dialer-list 1 protocol ipx permit !
radius-server host 172.18.124.111 auth-port 1645 acct-
port 1646 radius-server key cisco ! line con 0 transport
input none line 1 modem InOut transport input all
stopbits 1 speed 115200 flowcontrol hardware line 2 16
line aux 0 line vty 0 4 password ww ! end
```

其他Cisco IOS软件版本的命令

注意： 要使用这些命令，请从上述配置取消粗体的in命令并且粘贴这些in命令，如指明由您的Cisco IOS软件版本。

Cisco IOS软件版本11.3.3.T通过12.0.5.T

```
aaa authentication login default radius local
aaa authentication ppp default if-needed radius local
aaa authorization network default radius
```

Cisco IOS软件版本11.1通过11.3.3.T

```
aaa authentication login default radius
```

```
aaa authentication ppp default if-needed radius
aaa authorization network radius
```

服务器配置 - 路由器的访问列表

此步骤介入访问列表的配置在路由器的。RADIUS服务器用应用的访问列表编号配置。当呼叫验证时，RADIUS服务器返回访问列表编号对NAS，然后运用对应的访问列表。

服务器配置- Cisco Secure ACS for Windows 2.X - RADIUS

遵循以下步骤：

1. 在用户设置，请填写名称和密码。
2. 在组设置，请检查：属性6 -**成帧**属性7 - **PPP**属性11 -**过滤器ID**。在下面的区域中，类型**101.in注意：** 属性11指定访问列表101应用。保证access-list 101在路由器配置。

服务器配置- Cisco Secure ACS UNIX RADIUS

```
rtp-evergreen# ./ViewProfile -p 9900 -u chaprtr
User Profile Information
user = chaprtr{
profile_id = 51
profile_cycle = 1
radius=Cisco {
check_items= {
2="chaprtr"
}
reply_attributes= {
6=2
7=1
11=101.in } } }
```

注意： 属性11指定access-list 101应用。保证access-list 101在路由器配置。

服务器配置- Livingston RADIUS

```
chaprtr Password = chaprtr
User-Service-Type = Framed-User,
Framed-Protocol = PPP,
Framed-Filter-Id = 101.in
```

注意： 这指定access-list 101应用。保证access-list 101在路由器配置。

路由器调试示例

```
koala#show debug General OS: AAA Authentication debugging is on AAA Authorization debugging is
on PPP: PPP protocol negotiation debugging is on Radius protocol debugging is on koala# *Mar 1
00:55:36.307: As1 LCP: I CONFREQ [Closed] id 0 len 23 *Mar 1 00:55:36.311: As1 LCP: ACCM
0x00000000 (0x020600000000) *Mar 1 00:55:36.311: As1 LCP: MagicNumber 0x00004CDD
(0x050600004CDD) *Mar 1 00:55:36.315: As1 LCP: PFC (0x0702) *Mar 1 00:55:36.319: As1 LCP: ACFC
(0x0802) *Mar 1 00:55:36.319: As1 LCP: Callback 6 (0x0D0306) *Mar 1 00:55:36.323: As1 LCP: Lower
layer not up, Fast Starting *Mar 1 00:55:36.323: As1 PPP: Treating connection as a dedicated
line *Mar 1 00:55:36.327: As1 PPP: Phase is ESTABLISHING, Active Open [0 sess, 0 load] *Mar 1
00:55:36.331: As1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially *Mar 1 00:55:36.335: As1 LCP: O
CONFREQ [Closed] id 26 len 25 *Mar 1 00:55:36.339: As1 LCP: ACCM 0x000A0000 (0x0206000A0000)
*Mar 1 00:55:36.343: As1 LCP: AuthProto CHAP (0x0305C22305) *Mar 1 00:55:36.343: As1 LCP:
MagicNumber 0xE0512B4A (0x0506E0512B4A) *Mar 1 00:55:36.347: As1 LCP: PFC (0x0702) *Mar 1
00:55:36.347: As1 LCP: ACFC (0x0802) *Mar 1 00:55:36.355: As1 LCP: O CONFREJ [REQsent] id 0 len
```

7 *Mar 1 00:55:36.355: As1 LCP: Callback 6 (0x0D0306) 00:55:36: %LINK-3-UPDOWN: Interface Async1, changed state to up *Mar 1 00:55:36.479: As1 LCP: I CONFACK [REQsent] id 26 len 25 *Mar 1 00:55:36.483: As1 LCP: ACCM 0x000A0000 (0x0206000A0000) *Mar 1 00:55:36.483: As1 LCP: AuthProto CHAP (0x0305C22305) *Mar 1 00:55:36.487: As1 LCP: MagicNumber 0xE0512B4A (0x0506E0512B4A) *Mar 1 00:55:36.491: As1 LCP: PFC (0x0702) *Mar 1 00:55:36.491: As1 LCP: ACFC (0x0802) *Mar 1 00:55:36.495: As1 LCP: I CONFREQ [ACKrcvd] id 1 len 20 *Mar 1 00:55:36.499: As1 LCP: ACCM 0x00000000 (0x020600000000) *Mar 1 00:55:36.503: As1 LCP: MagicNumber 0x00004CDD (0x050600004CDD) *Mar 1 00:55:36.503: As1 LCP: PFC (0x0702) *Mar 1 00:55:36.507: As1 LCP: ACFC (0x0802) *Mar 1 00:55:36.511: As1 LCP: O CONFACK [ACKrcvd] id 1 len 20 *Mar 1 00:55:36.515: As1 LCP: ACCM 0x00000000 (0x020600000000) *Mar 1 00:55:36.515: As1 LCP: MagicNumber 0x00004CDD (0x050600004CDD) *Mar 1 00:55:36.519: As1 LCP: PFC (0x0702) *Mar 1 00:55:36.519: As1 LCP: ACFC (0x0802) *Mar 1 00:55:36.523: As1 LCP: State is Open *Mar 1 00:55:36.527: As1 PPP: Phase is AUTHENTICATING, by this end [0 sess, 1 load] *Mar 1 00:55:36.531: As1 CHAP: O CHALLENGE id 8 len 26 from "koala" *Mar 1 00:55:36.647: As1 LCP: I IDENTIFY [Open] id 2 len 18 magic 0x00004CDD MSRASV4.00 *Mar 1 00:55:36.651: As1 LCP: I IDENTIFY [Open] id 3 len 21 magic 0x00004CDD MSRAS-1-ZEKIE *Mar 1 00:55:36.655: As1 CHAP: I RESPONSE id 8 len 28 from "chaprtr" *Mar 1 00:55:36.663: AAA: parse name=Async1 idb type=10 tty=1 *Mar 1 00:55:36.667: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0 adapter=0 port=1 channel=0 *Mar 1 00:55:36.671: AAA/MEMORY: create_user (0x4E9DF4) user='chaprtr' ruser='' port='Async1' rem_addr='async' authen_type=CHAP service=PPP priv=1 *Mar 1 00:55:36.675: AAA/AUTHEN/START (128288046): port='Async1' list='' action=LOGIN service=PPP *Mar 1 00:55:36.675: AAA/AUTHEN/START (128288046): using "default" list *Mar 1 00:55:36.679: AAA/AUTHEN (128288046): status = UNKNOWN *Mar 1 00:55:36.679: AAA/AUTHEN/START (128288046): Method=radius (radius) *Mar 1 00:55:36.683: RADIUS: ustruct sharecount=1 *Mar 1 00:55:36.687: RADIUS: Initial Transmit Async1 id 8 172.18.124.111:1645, Access-Request, len 78 *Mar 1 00:55:36.691: Attribute 4 6 0A1F0105 *Mar 1 00:55:36.695: Attribute 5 6 00000001 *Mar 1 00:55:36.695: Attribute 61 6 00000000 *Mar 1 00:55:36.695: Attribute 1 9 63686170 *Mar 1 00:55:36.699: Attribute 3 19 08E468A8 *Mar 1 00:55:36.699: Attribute 6 6 00000002 *Mar 1 00:55:36.703: Attribute 7 6 00000001 *Mar 1 00:55:36.835: RADIUS: Received from id 8 172.18.124.111:1645, Access-Accept, len 40 *Mar 1 00:55:36.839: Attribute 6 6 00000002 *Mar 1 00:55:36.843: Attribute 7 6 00000001 *Mar 1 00:55:36.843: Attribute 11 8 3130312E *Mar 1 00:55:36.851: AAA/AUTHEN (128288046): status = PASS *Mar 1 00:55:36.855: As1 AAA/AUTHOR/LCP: Authorize LCP *Mar 1 00:55:36.855: As1 AAA/AUTHOR/LCP (821299011): Port='Async1' list='' service=NET *Mar 1 00:55:36.859: AAA/AUTHOR/LCP: As1 (821299011) user='chaprtr' *Mar 1 00:55:36.859: As1 AAA/AUTHOR/LCP (821299011): send AV service=ppp *Mar 1 00:55:36.863: As1 AAA/AUTHOR/LCP (821299011): send AV protocol=lcp *Mar 1 00:55:36.863: As1 AAA/AUTHOR/LCP (821299011): found list "default" *Mar 1 00:55:36.867: As1 AAA/AUTHOR/LCP (821299011): Method=radius (radius) *Mar 1 00:55:36.871: As1 AAA/AUTHOR (821299011): Post authorization status = PASS_REPL *Mar 1 00:55:36.871: As1 AAA/AUTHOR/LCP: Processing AV service=ppp *Mar 1 00:55:36.879: As1 CHAP: O SUCCESS id 8 len 4 *Mar 1 00:55:36.883: As1 PPP: Phase is UP [0 sess, 1 load] *Mar 1 00:55:36.887: As1 AAA/AUTHOR/FSM: (0): Can we start IPCP? *Mar 1 00:55:36.887: As1 AAA/AUTHOR/FSM (3701006396): Port='Async1' list='' service=NET *Mar 1 00:55:36.891: AAA/AUTHOR/FSM: As1 (3701006396) user='chaprtr' *Mar 1 00:55:36.891: As1 AAA/AUTHOR/FSM (3701006396): send AV service=ppp *Mar 1 00:55:36.895: As1 AAA/AUTHOR/FSM (3701006396): send AV protocol=ip *Mar 1 00:55:36.899: As1 AAA/AUTHOR/FSM (3701006396): found list "default" *Mar 1 00:55:36.899: As1 AAA/AUTHOR/FSM (3701006396): Method=radius (radius) *Mar 1 00:55:36.903: As1 AAA/AUTHOR (3701006396): Post authorization status = PASS_REPL *Mar 1 00:55:36.907: As1 AAA/AUTHOR/FSM: We can start IPCP *Mar 1 00:55:36.915: As1 IPCP: O CONFREQ [Closed] id 5 len 10 *Mar 1 00:55:36.915: As1 IPCP: Address 10.31.1.5 (0x03060A1F0105) *Mar 1 00:55:36.923: As1 AAA/AUTHOR/FSM: (0): Can we start CDPCP? *Mar 1 00:55:36.923: As1 AAA/AUTHOR/FSM (3075092411): Port='Async1' list='' service=NET *Mar 1 00:55:36.927: AAA/AUTHOR/FSM: As1 (3075092411) user='chaprtr' *Mar 1 00:55:36.931: As1 AAA/AUTHOR/FSM (3075092411): send AV service=ppp *Mar 1 00:55:36.931: As1 AAA/AUTHOR/FSM (3075092411): send AV protocol=cdp *Mar 1 00:55:36.935: As1 AAA/AUTHOR/FSM (3075092411): found list "default" *Mar 1 00:55:36.935: As1 AAA/AUTHOR/FSM (3075092411): Method=radius (radius) *Mar 1 00:55:36.939: RADIUS: unknown proto "cdp" in acl-check *Mar 1 00:55:36.943: RADIUS: Filter-Id 101 out of range for protocol cdp. Ignoring. *Mar 1 00:55:36.943: As1 AAA/AUTHOR (3075092411): Post authorization status = PASS_REPL *Mar 1 00:55:36.947: As1 AAA/AUTHOR/FSM: We can start CDPCP *Mar 1 00:55:36.951: As1 CDPCP: O CONFREQ [Closed] id 5 len 4 *Mar 1 00:55:36.987: As1 CCP: I CONFREQ [Not negotiated] id 4 len 12 *Mar 1 00:55:36.991: As1 CCP: OUI (0x0002) *Mar 1 00:55:36.991: As1 CCP: MS-PPC supported bits 0x00007080 (0x120600007080) *Mar 1 00:55:36.999: As1 LCP: O PROTREJ [Open] id 27 len 18 protocol CCP (0x80FD0104000C0002120600007080) *Mar 1 00:55:37.003: As1 IPCP: I CONFREQ [REQsent] id 5 len 40 *Mar 1 00:55:37.007: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01) *Mar 1 00:55:37.011: As1 IPCP: Address 0.0.0.0 (0x030600000000) *Mar 1 00:55:37.015: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000) *Mar 1 00:55:37.019: As1 IPCP: PrimaryWINS 0.0.0.0

```
(0x820600000000) *Mar 1 00:55:37.023: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000) *Mar 1
00:55:37.027: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000) *Mar 1 00:55:37.027: As1
AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0 *Mar 1 00:55:37.031: As1
AAA/AUTHOR/IPCP: Processing AV service=ppp *Mar 1 00:55:37.035: As1 AAA/AUTHOR/IPCP: Processing
AV inacl=101 !--- Note that acl 101 is applied to the dialer interface. *Mar 1 00:55:37.035: As1
AAA/AUTHOR/IPCP: Authorization succeeded *Mar 1 00:55:37.039: As1 AAA/AUTHOR/IPCP: Done. Her
address 0.0.0.0, we want 0.0.0.0 *Mar 1 00:55:37.043: As1 IPCP: Pool returned 1.1.1.1 *Mar 1
00:55:37.047: As1 IPCP: O CONFREJ [REQsent] id 5 len 28 *Mar 1 00:55:37.051: As1 IPCP:
CompressType VJ 15 slots CompressSlotID (0x0206002D0F01) *Mar 1 00:55:37.055: As1 IPCP:
PrimaryWINS 0.0.0.0 (0x820600000000) *Mar 1 00:55:37.059: As1 IPCP: SecondaryDNS 0.0.0.0
(0x830600000000) *Mar 1 00:55:37.063: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000) *Mar 1
00:55:37.067: As1 IPCP: I CONFACK [REQsent] id 5 len 10 *Mar 1 00:55:37.071: As1 IPCP: Address
10.31.1.5 (0x03060A1F0105) *Mar 1 00:55:37.075: As1 LCP: I PROTREJ [Open] id 6 len 10 protocol
CDPCP (0x820701050004) *Mar 1 00:55:37.079: As1 CDPCP: State is Closed *Mar 1 00:55:37.183: As1
IPCP: I CONFREQ [ACKrcvd] id 7 len 16 *Mar 1 00:55:37.187: As1 IPCP: Address 0.0.0.0
(0x030600000000) *Mar 1 00:55:37.191: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000) *Mar 1
00:55:37.191: As1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 1.1.1.1 *Mar 1
00:55:37.195: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp *Mar 1 00:55:37.199: As1
AAA/AUTHOR/IPCP: Processing AV inacl=101 *Mar 1 00:55:37.199: As1 AAA/AUTHOR/IPCP: Authorization
succeeded *Mar 1 00:55:37.203: As1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.1.1.1
*Mar 1 00:55:37.207: As1 IPCP: O CONFNAK [ACKrcvd] id 7 len 16 *Mar 1 00:55:37.211: As1 IPCP:
Address 1.1.1.1 (0x030601010101) *Mar 1 00:55:37.215: As1 IPCP: PrimaryDNS 172.18.125.3
(0x8106AC127D03) *Mar 1 00:55:37.327: As1 IPCP: I CONFREQ [ACKrcvd] id 8 len 16 *Mar 1
00:55:37.331: As1 IPCP: Address 1.1.1.1 (0x030601010101) *Mar 1 00:55:37.335: As1 IPCP:
PrimaryDNS 172.18.125.3 (0x8106AC127D03) *Mar 1 00:55:37.335: As1 AAA/AUTHOR/IPCP: Start. Her
address 1.1.1.1, we want 1.1.1.1 *Mar 1 00:55:37.343: As1 AAA/AUTHOR/IPCP (408915304):
Port='Async1' list='' service=NET *Mar 1 00:55:37.347: AAA/AUTHOR/IPCP: As1 (408915304)
user='chaprtr' *Mar 1 00:55:37.347: As1 AAA/AUTHOR/IPCP (408915304): send AV service=ppp *Mar 1
00:55:37.351: As1 AAA/AUTHOR/IPCP (408915304): send AV protocol=ip *Mar 1 00:55:37.355: As1
AAA/AUTHOR/IPCP (408915304): send AV addr*1.1.1.1 *Mar 1 00:55:37.355: As1 AAA/AUTHOR/IPCP
(408915304): found list "default" *Mar 1 00:55:37.359: As1 AAA/AUTHOR/IPCP (408915304):
Method=radius (radius) *Mar 1 00:55:37.363: As1 AAA/AUTHOR (408915304): Post authorization
status = PASS_REPL *Mar 1 00:55:37.367: As1 AAA/AUTHOR/IPCP: Reject 1.1.1.1, using 1.1.1.1 *Mar
1 00:55:37.375: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp *Mar 1 00:55:37.375: As1
AAA/AUTHOR/IPCP: Processing AV inacl=101 *Mar 1 00:55:37.379: As1 AAA/AUTHOR/IPCP: Processing AV
addr*1.1.1.1 *Mar 1 00:55:37.379: As1 AAA/AUTHOR/IPCP: Authorization succeeded *Mar 1
00:55:37.383: As1 AAA/AUTHOR/IPCP: Done. Her address 1.1.1.1, we want 1.1.1.1 *Mar 1
00:55:37.387: As1 IPCP: O CONFACK [ACKrcvd] id 8 len 16 *Mar 1 00:55:37.391: As1 IPCP: Address
1.1.1.1 (0x030601010101) *Mar 1 00:55:37.395: As1 IPCP: PrimaryDNS 172.18.125.3 (0x8106AC127D03)
*Mar 1 00:55:37.399: As1 IPCP: State is Open *Mar 1 00:55:37.727: As1 IPCP: Install route to
1.1.1.1 *Mar 1 00:55:37: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1, changed state
to up koala#
```

定义在服务器的访问列表

注意： 路由语句不必须从服务器通过下来到路由器;拨号用户通常拾起从路由器的路由。路由语句的出现在路由器的取决于路由是否将从服务器通过下来或从路由器被拾起。然而，在本例中，访问列表和路由语句通过下来。

```
ip route 9.9.9.0 255.255.255.0 11.11.11.12
ip route 15.15.15.0 255.255.255.0 12.12.12.13
```

在此配置示例中，通过路由下来从服务器仅是为图示的目的。

路由器配置
Current configuration: ! version 12.0 service timestamps debug uptime service timestamps log uptime no service password-encryption !

```
hostname koala
!
aaa new-model
!
!--- The following three lines of the configuration are
!--- specific to Cisco IOS Software Release 12.0.5.T and
later. !--- See below this configuration for commands !-
-- for other Cisco IOS Software Releases. ! aaa
authentication login default group radius none aaa
authentication ppp default if-needed group radius aaa
authorization network default group radius enable secret
5 $1$mnZQ$g6XdsgVnnYjEa.l7v.Pij1 enable password ww !
username john password 0 doe ! ip subnet-zero ! cns
event-service server ! interface Ethernet0 ip address
10.31.1.5 255.255.255.0 no ip directed-broadcast no mop
enabled ! interface Serial0 ip address 11.11.11.11
255.255.255.0 no ip directed-broadcast no ip mroute-
cache no fair-queue ! interface Serial1 ip address
12.12.12.12 255.255.255.0 no ip directed-broadcast !
interface Async1 ip unnumbered Ethernet0 no ip directed-
broadcast encapsulation ppp no ip route-cache no ip
mroute-cache async mode dedicated peer default ip
address pool mypool fair-queue 64 16 0 no cdp enable ppp
authentication chap ! ip local pool mypool 1.1.1.1
1.1.1.5 ip classless ip route 0.0.0.0 0.0.0.0 10.31.1.1
ip route 172.17.192.0 255.255.255.0 10.31.1.1 ip route
172.18.124.0 255.255.255.0 10.31.1.1 ip route
172.18.125.0 255.255.255.0 10.31.1.1 no ip http server !
dialer-list 1 protocol ip permit dialer-list 1 protocol
ipx permit ! radius-server host 172.18.124.111 auth-port
1645 acct-port 1646 radius-server key cisco ! line con 0
transport input none line 1 autoselect during-login
autoselect ppp modem InOut transport input all stopbits
1 speed 115200 flowcontrol hardware line 2 16 line aux 0
line vty 0 4 password ww ! end
```

其他Cisco IOS软件版本的命令

注意： 要使用这些命令，请从上述配置取消粗体的in命令并且粘贴这些in命令，如指明由您的Cisco IOS软件版本。

Cisco IOS软件版本11.3.3.T通过12.0.5.T

```
aaa authentication login default radius local
aaa authentication ppp default if-needed radius local
aaa authorization network default radius
```

Cisco IOS软件版本11.3通过11.3.3.T

```
aaa authentication login default radius
aaa authentication ppp default if-needed radius
aaa authorization network radius
```

服务器配置

服务器配置- Cisco Secure ACS UNIX RADIUS

```
# ./ViewProfile -p 9900 -u chaprtr
User Profile Information
user = chaprtr{
```

```
profile_id = 31
profile_cycle = 1
radius=Cisco {
check_items= {
2="chaprtr"
}
reply_attributes= {
6=2
7=1
9,1="ip:route#1=9.9.9.9 255.255.255.255 11.11.11.12"
9,1="ip:route#2=15.15.15.15 255.255.255.255 12.12.12.13"
9,1="ip:route#3=15.15.15.16 255.255.255.255 12.12.12.13"
9,1="ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255" 9,1="ip:inacl#2=permit tcp
1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255" !--- The access-list to be applied is specified. !---
Note that the number after inacl# increments for each line of the access-list. } } }
```

服务器配置- Cisco Secure ACS for Windows 2.x - RADIUS

完成这些步骤：

1. 在用户设置，请填写名称和密码。
2. 在组设置，请检查：属性6 -**成帧**属性7 - **PPP**
3. 在Cisco RADIUS属性下，请检查**[009\001] AV对**并且在底下键入在方框的以下文本

```
：ip:route#1=9.9.9.9 255.255.255.255 11.11.11.12
ip:route#2=15.15.15.15 255.255.255.255 12.12.12.13
ip:route#3=15.15.15.16 255.255.255.255 12.12.12.13
ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 ip:inacl#2=permit tcp 1.1.1.0
0.0.0.255 15.15.15.0 0.0.0.255 !--- The access-list to be applied is specified. !--- Note
that the number after inacl# increments for !--- each line of the access-list.
```

服务器配置- Merit RADIUS

注意： 此配置为Merit RADIUS支持Cisco AV对的版本3.6b或以上版本是有效。

```
chaprtr Password = "chaprtr",
Service-Type = Framed,
Framed-Protocol = PPP,
Framed-IP-Address = 255.255.255.254
Cisco:Avpair="ip:route#1=9.9.9.9 255.255.255.255 11.11.11.12"
Cisco:Avpair="ip:route#2=15.15.15.15 255.255.255.255 12.12.12.13"
Cisco:Avpair="ip:route#3=15.15.15.16 255.255.255.255 12.12.12.13"
Cisco:Avpair="ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255"
Cisco:Avpair="ip:inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255" !--- The access-list
to be applied is specified. ! --- Note that the number after inacl# increments for each line of
the access-list.
```

路由器调试示例

下面的调试的RADIUS用户配置是：

```
RADIUS user password = "radiususer",
Service-Type = Framed,
Framed-Protocol = PPP,
Framed-IP-Address = 255.255.255.254
cisco-avpair = "ip:route#1=9.9.9.0 255.255.255.0 11.11.11.12"
cisco-avpair = "ip:route#2=15.15.15.0 255.255.255.0 12.12.12.13"
cisco-avpair = "ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log"
cisco-avpair = "ip:inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15 .0 0.0.0.255 log"

koala#
```

```
koala#
4d05h: As1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
4d05h: %LINK-3-UPDOWN: Interface Async1, changed state to up
4d05h: AAA: parse name=Async1 idb type=10 tty=1
4d05h: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0
    adapter=0 port=1 channel=0
4d05h: AAA/MEMORY: create_user (0x552AB4) user='radiususer'
    ruser='' port='Async1' rem_addr='async' authen_type=CHAP
    service=PPP priv=1
4d05h: AAA/AUTHEN/START (624846144): port='Async1' list=''
    action=LOGIN service=PPP
4d05h: AAA/AUTHEN/START (624846144): using "default" list
4d05h: AAA/AUTHEN (624846144): status = UNKNOWN
4d05h: AAA/AUTHEN/START (624846144): Method=radius (radius)
4d05h: RADIUS: ustruct sharecount=1
4d05h: RADIUS: Initial Transmit Async1 id 9 172.18.124.111:1645,
    Access-Request, len 81
4d05h: Attribute 4 6 0A1F0105
4d05h: Attribute 5 6 00000001
4d05h: Attribute 61 6 00000000
4d05h: Attribute 1 12 72616469
4d05h: Attribute 3 19 1672E16F
4d05h: Attribute 6 6 00000002
4d05h: Attribute 7 6 00000001
4d05h: RADIUS: Received from id 9 172.18.124.111:1645,
    Access-Accept, len 287
4d05h: Attribute 6 6 00000002
4d05h: Attribute 7 6 00000001
4d05h: Attribute 8 6 FFFFFFFE
4d05h: Attribute 26 52 00000009012E6970
4d05h: Attribute 26 55 0000000901316970
4d05h: Attribute 26 70 0000000901406970
4d05h: Attribute 26 72 0000000901426970
4d05h: AAA/AUTHEN (624846144): status = PASS
4d05h: As1 AAA/AUTHOR/LCP: Authorize LCP
4d05h: As1 AAA/AUTHOR/LCP (3679631149): Port='Async1' list=''
    service=NET
4d05h: AAA/AUTHOR/LCP: As1 (3679631149) user='radiususer'
4d05h: As1 AAA/AUTHOR/LCP (3679631149): send AV service=ppp
4d05h: As1 AAA/AUTHOR/LCP (3679631149): send AV protocol=lcp
4d05h: As1 AAA/AUTHOR/LCP (3679631149): found list "default"
4d05h: As1 AAA/AUTHOR/LCP (3679631149): Method=radius (radius)
4d05h: RADIUS: cisco AVPair "ip:route#1=9.9.9.0 255.255.255.0
    11.11.11.12" not applied for lcp
4d05h: RADIUS: cisco AVPair "ip:route#2=15.15.15.0 255.255.255.0
    12.12.12.13" not applied for lcp
4d05h: RADIUS: cisco AVPair "ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255
    9.9.9.0 0.0.0.255 log" not applied for lcp
4d05h: RADIUS: cisco AVPair "ip:inacl#2=permit tcp 1.1.1.0 0.0.0.255
    15.15.15.0 0.0.0.255 log" not applied for lcp
4d05h: As1 AAA/AUTHOR (3679631149): Post authorization
    status = PASS_REPL
4d05h: As1 AAA/AUTHOR/LCP: Processing AV service=ppp
4d05h: As1 AAA/AUTHOR/FSM: (0): Can we start IPCP?
4d05h: As1 AAA/AUTHOR/FSM (231623628): Port='Async1' list=''
    service=NET
4d05h: AAA/AUTHOR/FSM: As1 (231623628) user='radiususer'
4d05h: As1 AAA/AUTHOR/FSM (231623628): send AV service=ppp
4d05h: As1 AAA/AUTHOR/FSM (231623628): send AV protocol=ip
4d05h: As1 AAA/AUTHOR/FSM (231623628): found list "default"
4d05h: As1 AAA/AUTHOR/FSM (231623628): Method=radius (radius)
4d05h: RADIUS: Using NAS default peer
4d05h: RADIUS: Authorize IP address 0.0.0.0
```

4d05h: RADIUS: cisco AVPair "ip:route#1=9.9.9.0 255.255.255.0
    11.11.11.12"
4d05h: RADIUS: cisco AVPair "ip:route#2=15.15.15.0 255.255.255.0
    12.12.12.13"
4d05h: RADIUS: cisco AVPair "ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log"
4d05h: RADIUS: cisco AVPair "ip:inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log"
!--- The access list is sent down from the RADIUS server. 4d05h: As1 AAA/AUTHOR (231623628): Post authorization status = PASS_REPL 4d05h: As1 AAA/AUTHOR/FSM: We can start IPCP 4d05h: As1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV addr=0.0.0.0 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#1=9.9.9.0 255.255.255.0 11.11.11.12 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#2=15.15.15.0 255.255.255.0 12.12.12.13 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log 4d05h: As1 AAA/AUTHOR/IPCP: Authorization succeeded 4d05h: As1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 0.0.0.0 4d05h: As1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 1.1.1.3 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV addr=0.0.0.0 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#1=9.9.9.0 255.255.255.0 11.11.11.12 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#2=15.15.15.0 255.255.255.0 12.12.12.13 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log 4d05h: As1 AAA/AUTHOR/IPCP: Authorization succeeded 4d05h: As1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.1.1.3 4d05h: As1 AAA/AUTHOR/IPCP: Start. Her address 1.1.1.3, we want 1.1.1.3 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): Port='Async1' list='' service=NET 4d05h: AAA/AUTHOR/IPCP: As1 (2383669304) user='radiususer' 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): send AV service=ppp 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): send AV protocol=ip 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): send AV addr*1.1.1.3 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): found list "default" 4d05h: As1 AAA/AUTHOR/IPCP (2383669304): Method=radius (radius) 4d05h: RADIUS: Using NAS default peer 4d05h: RADIUS: Authorize IP address 1.1.1.3 4d05h: RADIUS: cisco AVPair "ip:route#1=9.9.9.0 255.255.255.0 11.11.11.12" 4d05h: RADIUS: cisco AVPair "ip:route#2=15.15.15.0 255.255.255.0 12.12.12.13" 4d05h: RADIUS: cisco AVPair "ip:inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log" 4d05h: RADIUS: cisco AVPair "ip:inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log" 4d05h: As1 AAA/AUTHOR (2383669304): Post authorization status = PASS_REPL 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV addr=1.1.1.3 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#1=9.9.9.0 255.255.255.0 11.11.11.12 4d05h: As1 AAA/AUTHOR/IPCP: Processing AV route#2=15.15.15.0 255.255.255.0 12.12.12.13 **4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#1=permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log**
4d05h: As1 AAA/AUTHOR/IPCP: Processing AV inacl#2=permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log *!--- Access list from the RADIUS server is applied.* 4d05h: As1 AAA/AUTHOR/IPCP: Authorization succeeded 4d05h: As1 AAA/AUTHOR/IPCP: Done. Her address 1.1.1.3, we want 1.1.1.3 4d05h: As1 AAA/AUTHOR/PER-USER: Event IP_UP 4d05h: As1 AAA/AUTHOR: IP_UP 4d05h: As1 AAA/PER-USER: processing author params. 4d05h: As1 AAA/AUTHOR: Parse 'IP route 9.9.9.0 255.255.255.0 11.11.11.12' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: enqueue peruser IP txt=no IP route 9.9.9.0 255.255.255.0 11.11.11.12 4d05h: As1 AAA/AUTHOR: Parse 'IP route 15.15.15.0 255.255.255.0 12.12.12.13' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: enqueue peruser IP txt=no IP route 15.15.15.0 255.255.255.0 12.12.12.13 4d05h: As1 AAA/AUTHOR: Parse 'ip access-list extended Async1#0' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: Parse 'permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: Parse 'permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: enqueue peruser IP txt=no ip access-list extended Async1#0 4d05h: As1 AAA/AUTHOR: Parse 'interface Async1' 4d05h: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1, changed state to up 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: Parse 'IP access-group Async1#0 in' 4d05h: As1 AAA/AUTHOR: Parse returned ok (0) 4d05h: As1 AAA/AUTHOR: enqueue peruser IP txt=interface Async1 no IP access-group Async1#0 in koala#**show ip access-list** Extended IP access list 101 permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log (5 matches) permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log (11 matches) Extended IP access list **Async1#0 (per-user) permit icmp 1.1.1.0 0.0.0.255 9.9.9.0 0.0.0.255 log permit tcp 1.1.1.0 0.0.0.255 15.15.15.0 0.0.0.255 log** *!--- Verify that the access list is applied to the AS1 dial interface.*
koala#**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
10.31.1.1 to network 0.0.0.0 1.0.0.0/32 is subnetted, 1 subnets C 1.1.1.3 is directly connected,
Async1 172.17.0.0/24 is subnetted, 1 subnets S 172.17.192.0 [1/0] via 10.31.1.1 172.18.0.0/24 is
subnetted, 2 subnets S 172.18.124.0 [1/0] via 10.31.1.1 S 172.18.125.0 [1/0] via 10.31.1.1
9.0.0.0/24 is subnetted, 1 subnets U 9.9.9.0 [1/0] via 11.11.11.12 !--- The static user route
specified by the RADIUS server is applied. 10.0.0.0/24 is subnetted, 1 subnets C 10.31.1.0 is
directly connected, Ethernet0 11.0.0.0/24 is subnetted, 1 subnets C 11.11.11.0 is directly
connected, Serial0 12.0.0.0/24 is subnetted, 1 subnets C 12.12.12.0 is directly connected,
Serial1 15.0.0.0/24 is subnetted, 1 subnets U 15.15.15.0 [1/0] via 12.12.12.13 !--- The static
user route specified by the RADIUS server is applied. S* 0.0.0.0/0 [1/0] via 10.31.1.1
```

debug 命令

- **debug aaa authentication** -显示关于AAA认证的信息。
- **debug aaa authorization** -显示关于AAA授权的信息。
- **debug aaa per-user** -显示关于从AAA服务器发送的每用户配置设置的信息在路由器或接入服务器。
- **debug radius** - 显示与 RADIUS 相关的调试详细信息。
- **debug ppp negotiation** - 显示在 PPP 启动期间传输的 PPP 数据包，在此启动期间将协商 PPP 选项。

关于故障排除信息，请参阅在拨号接口的故障排除访问列表。

相关信息

- Cisco Secure ACS for UNIX 文档
- Cisco Secure ACS for Windows 支持页
- Cisco Secure ACS for Windows 文档
- 安全产品问题信息通告(Field Notice) (包括Cisco Secure UNIX)
- RADIUS 支持页
- 配置RADIUS
- 请求注解 (RFC)
- 技术支持 - Cisco Systems