Como aplicar as listas de acesso às interfaces de discagem com um servidor RADIUS

Contents

Introduction

Este documento demonstra como aplicar listas de acesso a interfaces de discagem com um servidor RADIUS. Há dois métodos possíveis:

- Defina a lista de acesso numerada no roteador e, em seguida, consulte a lista de acesso numerada no servidor RADIUS. A maioria das versões do software Cisco IOS® suportam isso. Por exemplo, defina a lista de acesso numerada no roteador e faça referência a ela no servidor.
- Defina toda a lista de acesso no servidor. O Cisco IOS Software Release 11.3 ou posterior é necessário para este método por usuário. Por exemplo, defina a lista de acesso no servidor RADIUS (em vez de no NAS). Quando a chamada se conecta, o NAS autentica a chamada com o servidor RADIUS. Juntamente com qualquer informação de autenticação, o servidor retorna a lista de acesso ao NAS que aplica à interface de discagem.

Observação: para ISDN, você deve usar o método **por usuário** e deve configurar perfis virtuais no roteador. Eles são descritos para o Cisco IOS Software Release 11.3 em Configuração de Perfis Virtuais.

Prerequisites

Requirements

Não existem requisitos específicos para este documento.

Componentes Utilizados

As informações neste documento são baseadas nestas versões de software e hardware.

- Software Cisco IOS versão 11.1 ou posterior (defina as listas de acesso no roteador)
- Software Cisco IOS versão 11.3 ou posterior (defina listas de acesso no servidor)
- Cisco Secure ACS UNIX ou Cisco Secure ACS para Windows 2.x ou Livingston RADIUS ou Merit RADIUS

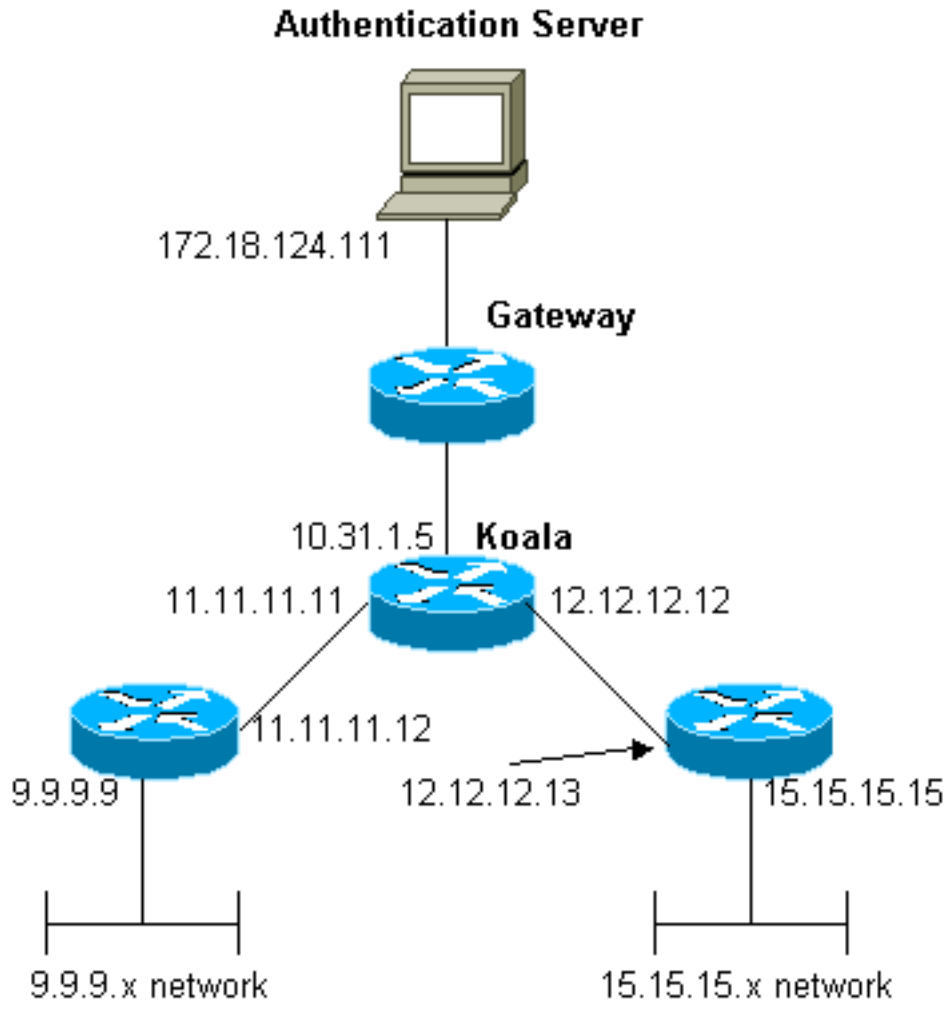
As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. All of the devices used in this document started with a cleared (default) configuration. Se você estiver trabalhando em uma rede ativa, certifique-se de que entende o impacto potencial de qualquer comando antes de utilizá-lo.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Diagrama de Rede

Esta rede é usada em ambos os exemplos:



Definir listas de acesso numeradas no roteador

Configuração do roteador

```
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.17v.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
```

Comandos para outras versões do software Cisco IOS

Observação: para usar esses comandos, remova os comandos em negrito da configuração acima e cole esses comandos, conforme indicado pela versão do software Cisco IOS.

Software Cisco IOS versão 11.3.3.T a 12.0.5.T

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

Software Cisco IOS versão 11.1 a 11.3.3.T

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

Configurações do servidor - Listas de acesso no roteador

Esse procedimento envolve a configuração da própria lista de acesso no roteador. O servidor RADIUS é configurado com o número da lista de acesso que é aplicado. Quando a chamada é autenticada, o servidor RADIUS retorna o número da lista de acesso para o NAS, que aplica a lista de acesso correspondente.

Configuração do servidor - Cisco Secure ACS para Windows 2.X - RADIUS

Siga as etapas abaixo:

1. Nas Configurações do usuário, preencha o nome e a(s) senha(s).
2. Nas Configurações do grupo, marque:Atributo 6 - **Quadro**Atributo 7 - **PPP**Atributo 11 - **Filter-Id**. Na área abaixo, digite **101.in**Nota: O atributo 11 especifica que a lista de acesso 101 é aplicada. Verifique se a lista de acesso 101 está configurada no roteador.

Configuração do servidor - 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
}
}

}
```

Observação: o atributo 11 especifica que a lista de acesso 101 é aplicada. Verifique se a lista de acesso 101 está configurada no roteador.

Configuração do servidor - Livingston RADIUS

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

Observação: especifica que a lista de acesso 101 é aplicada. Verifique se a lista de acesso 101

está configurada no roteador.

Debug de Exemplo de Roteador

```
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#
```

Definir listas de acesso no servidor

Observação: as instruções de rota não precisam ser passadas do servidor para o roteador; o usuário de discagem normalmente coleta as rotas do roteador. A presença das instruções de rota no roteador depende se as rotas devem ser passadas pelo servidor ou coletadas do roteador. No entanto, neste exemplo, a lista de acesso e as instruções de rota são passadas para baixo.

```
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
```

Nesta configuração de exemplo, a passagem das rotas do servidor é apenas para fins de ilustração.

Configuração do roteador

```
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
```

Comandos para outras versões do software Cisco IOS

Observação: para usar esses comandos, remova os comandos em negrito da configuração acima e cole esses comandos, conforme indicado pela versão do software Cisco IOS.

Software Cisco IOS versão 11.3.3.T a 12.0.5.T

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

Software Cisco IOS versão 11.3 a 11.3.3.T

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

Configurações do Servidor

Configuração do servidor - 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. } } }
```

Configuração do servidor - Cisco Secure ACS para Windows 2.x - RADIUS

Conclua estes passos:

1. Em Configurações do usuário, preencha o nome e a(s) senha(s).
2. Nas Configurações do grupo, marque:Atributo 6 - **Quadro**Atributo 7 - **PPP**
3. Em Cisco RADIUS Attributes, marque **[009\001] AV-Pair** e digite o seguinte texto na caixa abaixo:

```
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.
```

Configuração do servidor - Merit RADIUS

Observação: essas configurações são válidas para o Merit RADIUS versão 3.6b ou versões posteriores que suportam os pares de av da Cisco.

```
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.
```

Debug de Exemplo de Roteador

A configuração do usuário RADIUS para a depuração abaixo foi:

```
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
```

Comandos debug

- **debug aaa authentication** - Exibe informações sobre a autenticação AAA.
- **debug aaa authorization** - Exibe informações sobre a autorização AAA.
- **debug aaa per-user** - Exibe informações sobre as configurações por usuário no roteador ou no servidor de acesso que são enviadas de um servidor AAA.
- **debug radius** - Exibe informações detalhadas de depuração associadas ao RADIUS.
- **debug ppp negotiation - Exibe pacotes PPP transmitidos durante a inicialização de PPP, em**

que as opções de PPP são negociadas.

Para obter informações sobre solução de problemas, consulte Troubleshooting de Listas de Acesso em Interfaces de Discagem.

Informações Relacionadas

- Documentação para Cisco Secure ACS for UNIX
- Cisco Secure ACS para página de suporte do Windows
- Documentação para Cisco Secure ACS for Windows
- Página de suporte RADIUS
- Configurando o RADIUS
- Solicitações de Comentários (RFCs)