

# Come applicare elenchi degli accessi alle interfacce di composizione con un server RADIUS

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## [Introduzione](#)

In questo documento viene illustrato come applicare gli elenchi degli accessi alle interfacce di composizione con un server RADIUS. Esistono due metodi:

- Definire l'elenco degli accessi numerato sul router, quindi fare riferimento all'elenco degli accessi numerato sul server RADIUS. La maggior parte delle versioni software Cisco IOS® supporta questa funzionalità. Ad esempio, definire l'elenco degli accessi numerato sul router e farvi riferimento sul server.
- Definire l'intero elenco degli accessi sul server. Per questo metodo per utente è richiesto il software Cisco IOS versione 11.3 o successive. Ad esempio, definire l'elenco degli accessi sul server RADIUS (anziché sul server NAS). Quando la chiamata si connette, il server NAS autentica la chiamata con il server RADIUS. Insieme a tutte le informazioni di autenticazione, il server restituisce l'elenco degli accessi al server NAS che viene quindi applicato all'interfaccia di connessione.

**Nota:** per le connessioni ISDN, è necessario utilizzare il metodo **per utente** e configurare i profili virtuali sul router. Quanto qui illustrato si basa sul software Cisco IOS versione 11.3 in [Configurazione dei profili virtuali](#).

## Prerequisiti

### Requisiti

Nessun requisito specifico previsto per questo documento.

### Componenti usati

Le informazioni fornite in questo documento si basano sulle seguenti versioni software e hardware.

- Software Cisco IOS versione 11.1 o successive (definire gli elenchi degli accessi sul router)
- Software Cisco IOS versione 11.3 o successive (definire gli elenchi degli accessi sul server)
- Cisco Secure ACS UNIX o Cisco Secure ACS per Windows 2.x o Livingston RADIUS o Merit RADIUS

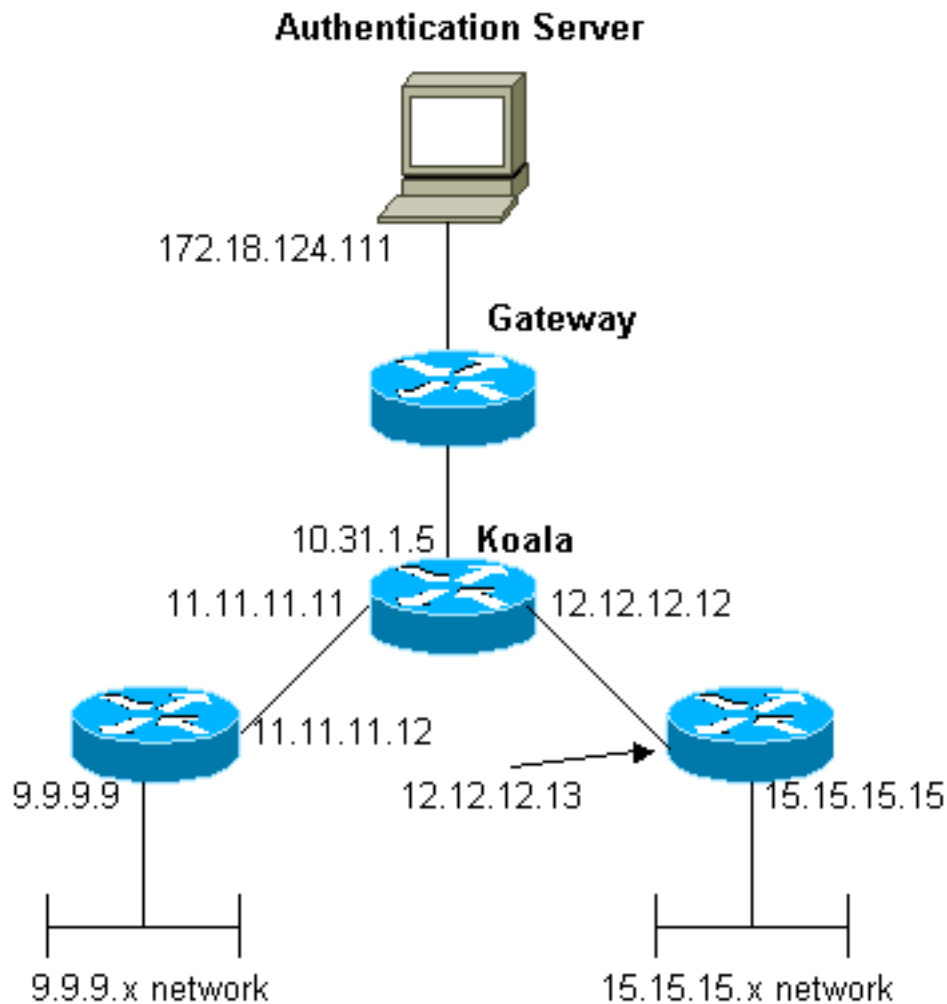
Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

### Convenzioni

Per ulteriori informazioni sulle convenzioni usate, consultare il documento [Cisco sulle convenzioni nei suggerimenti tecnici](#).

## Esempio di rete

Questa rete viene utilizzata in entrambi gli esempi:



## Definizione degli elenchi degli accessi numerati sul router

### Configurazione router

```

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
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.Pijl
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

```

## [Comandi per altre versioni del software Cisco IOS](#)

**Nota:** per utilizzare questi comandi, rimuovere i comandi in grassetto dalla configurazione precedente e incollarli nella, come richiesto dalla versione software Cisco IOS in uso.

### [Software Cisco IOS release 11.3.3.T - 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 release 11.1-11.3.3.T](#)

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

### [Configurazioni server - Elenchi degli accessi sul router](#)

Questa procedura riguarda la configurazione dell'elenco degli accessi sul router. Il server RADIUS è configurato con il numero dell'elenco degli accessi applicato. Quando la chiamata viene autenticata, il server RADIUS restituisce il numero dell'elenco degli accessi al server NAS, che quindi applica l'elenco degli accessi corrispondente.

### [Configurazione server - Cisco Secure ACS per Windows 2.X - RADIUS](#)

Attendersi alla procedura seguente:

1. In Impostazioni utente, immettere il nome e la password.
2. In Impostazioni gruppo, selezionare: Attributo 6 - **Con frame** Attributo 7 - **PPP** Attributo 11 - **Filter-Id**. Nell'area sottostante, digitare **101.in**. **Nota:** l'attributo 11 specifica che è applicato l'elenco degli accessi 101. Verificare che access-list 101 sia configurato sul router.

### [Configurazione server - 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
}
}
}
```

**Nota:** l'attributo 11 specifica che è applicato l'elenco degli accessi 101. Verificare che access-list 101 sia configurato sul router.

### [Configurazione server - Livingston RADIUS](#)

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

**Nota:** si specifica che viene applicato l'elenco degli accessi 101. Verificare che access-list 101 sia

configurato sul router.

## Debug del router di esempio

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 CONFREQ [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 "chaptrtr"
*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='chaptrtr'
```

```
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='chaptrtr'
*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: 0 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='chaptrtr'
*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: 0 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='chaptrtr'
```

\*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 CONFREQ [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='Asyncl' 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: Asl AAA/AUTHOR/IPCP: Authorization succeeded *Mar 1
00:55:37.383: Asl AAA/AUTHOR/IPCP: Done. Her address 1.1.1.1, we want 1.1.1.1 *Mar 1
00:55:37.387: Asl IPCP: O CONFACK [ACKrcvd] id 8 len 16 *Mar 1 00:55:37.391: Asl IPCP: Address
1.1.1.1 (0x030601010101) *Mar 1 00:55:37.395: Asl IPCP: PrimaryDNS 172.18.125.3 (0x8106AC127D03)
*Mar 1 00:55:37.399: Asl IPCP: State is Open *Mar 1 00:55:37.727: Asl 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#
```

## Definizione degli elenchi degli accessi sul server

**Nota:** non è necessario passare le istruzioni route dal server al router; l'utente che effettua la connessione in genere sceglie i percorsi dal router. La presenza di istruzioni di routing sul router dipende dal fatto che le route debbano essere passate dal server o prelevate dal router. Tuttavia, nell'esempio riportato, l'elenco degli accessi e le istruzioni route vengono passati.

```
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
```

In questa configurazione di esempio, il passaggio delle route dal server è solo a scopo illustrativo.

### Configurazione router

```
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.Pijl
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

```

## [Comandi per altre versioni del software Cisco IOS](#)

**Nota:** per utilizzare questi comandi, rimuovere i comandi in grassetto dalla configurazione precedente e incollarli nella, come richiesto dalla versione software Cisco IOS in uso.

### [Software Cisco IOS release 11.3.3.T - 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 release 11.3-11.3.3.T](#)

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

## Configurazioni server

### Configurazione server - 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. } } }
```

### **Configurazione server - Cisco Secure ACS per Windows 2.x - RADIUS**

Attenersi alla seguente procedura:

1. In Impostazioni utente immettere il nome e la password.
2. In Impostazioni gruppo, selezionare: Attributo 6 - **Con frame** Attributo 7 - **PPP**
3. In Cisco RADIUS Attributes, selezionare **[009\001] AV-Pair** e digitare il testo seguente nella casella sottostante:

```
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.
```

### **Configurazione server - Merit RADIUS**

**Nota:** questa configurazione è valida per Merit RADIUS versione 3.6b o successive che supportano coppie av 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 del router di esempio

La configurazione utente RADIUS per il debug seguente è:

```
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

```

## Comandi debug

- **debug aaa authentication:** visualizza le informazioni sull'autenticazione AAA.
- **debug aaa authorization:** visualizza le informazioni sull'autorizzazione AAA.
- **debug aaa per utente:** visualizza le informazioni sulle impostazioni di configurazione per utente sul router o sul server di accesso inviate da un server AAA.
- **debug radius:** visualizza informazioni di debug dettagliate associate a RADIUS.
- **debug ppp negotiation:** visualizza i pacchetti PPP trasmessi durante l'avvio del protocollo PPP, dove le opzioni PPP vengono negoziate.

Per informazioni sulla risoluzione dei problemi, vedere [Risoluzione dei problemi relativi agli elenchi](#)

[degli accessi sulle interfacce di composizione.](#)

## **Informazioni correlate**

- [Documentazione per Cisco Secure ACS per UNIX](#)
- [Pagina di supporto di Cisco Secure ACS per Windows](#)
- [Documentazione per Cisco Secure ACS per Windows](#)
- [Pagina di supporto RADIUS](#)
- [Configurazione di RADIUS](#)
- [RFC \(Requests for Comments\)](#)