Examples

This chapter includes Cisco IOS configuration examples and application scenarios of p sending customized accounting templates to billing servers and directing AAA requests based on account number, called number, and trunk grouping.

This chapter includes the following examples:

Directing a AAA Request Based on Trunk Grouping

A Cisco IOS configuration example for directing a AAA request based on trunk grouping is shown below:

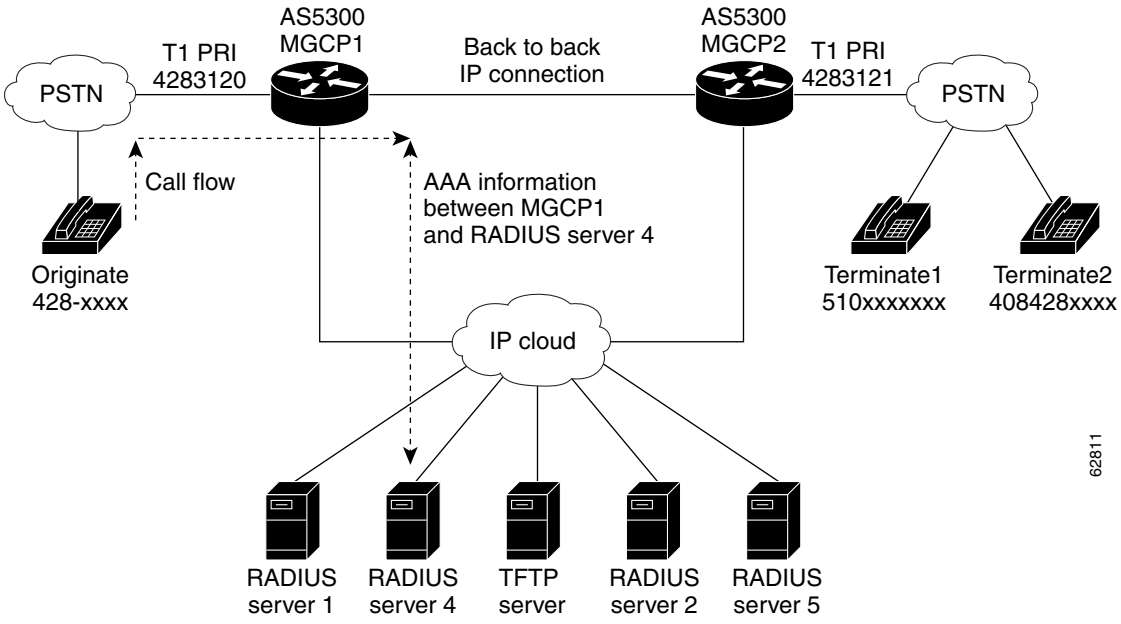
```
aaa new-model
aaa group server radius sg1
server 10.1.0.1 auth-port 1645 acct-port 1646
!
aaa group server radius sg2
server 10.20.0.1 auth-port 1645 acct-port 1646
!
aaa group server radius sg-def
server 10.0.50.50 auth-port 1645 acct-port 1646
!
aaa authentication login abc group sg1
aaa authentication login def group sg2
aaa authentication login h323 group sg-def
aaa authorization exec abc group sg1
aaa authorization exec def group sg2
aaa authorization exec h323 group sg-def
aaa accounting connection abc start-stop group sg1
aaa accounting connection def start-stop group sg2
aaa accounting connection h323 start-stop group sg-def
!
gw-accounting aaa
!
```

```
radius-server host 10.1.0.1 auth-port 1645 acct-port 1646 key abc
radius-server host 10.20.0.1 auth-port 1645 acct-port 1646 key ghi
radius-server host 10.0.50.50 auth-port 1645 acct-port 1646 key ghi
!
trunk group 101
!
interface Serial1/0/0:23
no ip address
no ip directed-broadcast
isdn switch-type primary-ni
isdn protocol-emulate network
isdn incoming-voice modem
no cdp enable
trunk-group 101
!
interface Serial1/0/1:23
no ip address
no ip directed-broadcast
isdn switch-type primary-ni
isdn protocol-emulate network
isdn incoming-voice modem
no cdp enable
trunk-group 101
!
voice-class aaa 1
authentication abc
authorization abc
accounting abc
!
voice-class aaa 1
authentication def
authorization def
accounting def
!
dial-peer voice 700 pots
destination-pabcern 1700.......
voice-class aaa 1
trunkgroup 101
!
dial-peer voice 900 pots
destination-pabcern 1900.......
voice-class aaa 2
trunkgroup 202
!
```

Directing a AAA Request Using an Account Number

In Figure 1, the caller places a call to MGCP 1 with a modified debit card application applied to an incoming POTS dial peer. After the caller enters the card number (for example, 5555550001), AAA requests are directed to RADIUS 4.

Figure 1 AAA Redirect Using An Account Number : Scenario 1



A Cisco IOS configuration example for the topology in Figure 1 is shown below:

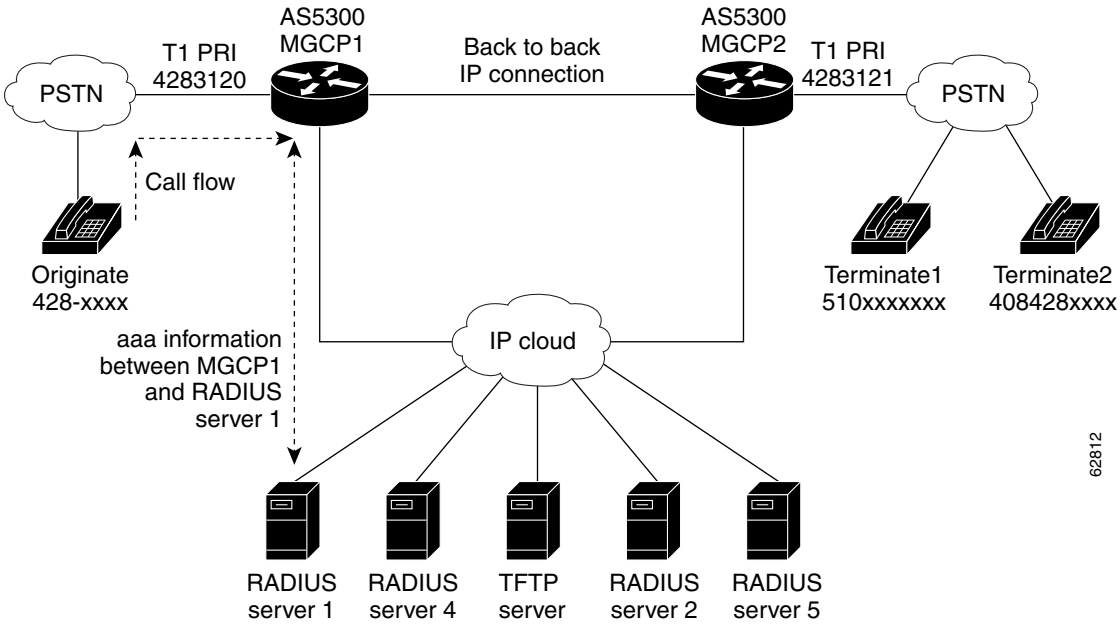
```
Radius protocol debugging is on
Radius packet hex dump debugging is off
Radius packet protocol debugging is on
mgcp1#
02:27:24: %ISDN-6-CONNECT: Interface Serial3:22 is now connected to 4111234567
02:27:30: %ISDN-6-CONNECT: Interface Serial3:22 is now connected to 4111234567
02:27:44: RADIUS/ENCODE(00000024): Unsupported AAA abcribute timezone
02:27:44: RADIUS(00000024): Encoding nas-port...Only port-type avlbl
02:27:44: RADIUS(00000024): sending
02:27:44: RADIUS(00000024): Encoding nas-port...Only port-type avlbl
02:27:44: RADIUS/ENCODE(00000024): acct_session_id: 36
02:27:44: RADIUS(00000024): sending
02:27:44: RADIUS(00000024): Encoding nas-port...Only port-type avlbl
02:27:44: RADIUS/ENCODE(00000024): acct_session_id: 36
02:27:44: RADIUS(00000024): sending
02:27:44: RADIUS: Send to unknown id 10 10.5.20.60:1234, Accounting-Request, len 480 <--
Accounting request sent
02:27:44: RADIUS:  authenticator CD F1 66 D1 C1 CB A1 68 - B7 3F 5C 2B 21 D6 B7 4B
to AAA server 4 instead
02:27:44: RADIUS:  User-Name           [1]   12  "4111234567"             server 2.
02:27:44: RADIUS:  Acct-Status-Type    [40]  6   Start                     [1]
02:27:44: RADIUS:  Acct-Session-Id     [44]  10  "00000024"
02:27:44: RADIUS:  Vendor, Cisco       [26]  25
02:27:44: RADIUS:   h323-gw-id         [33]  19  "h323-gw-id=mgcp1."
02:27:44: RADIUS:  Vendor, Cisco       [26]  56
02:27:44: RADIUS:   Conf-Id            [24]  50  "h323-conf-id=2E17E6F2 8E6611D4 8048FAFD
CD27A5B5"
02:27:44: RADIUS:  Vendor, Cisco       [26]  65
02:27:44: RADIUS:   Cisco AVpair       [1]   59  "h323-incoming-conf-id=2E17E6F2 8E6611D4
8048FAFD CD27A5B5"
02:27:44: RADIUS:  Vendor, Cisco       [26]  38
02:27:44: RADIUS:   Cisco AVpair       [1]   32  "h323-ivr-out=account range: 55"
02:27:44: RADIUS:  Vendor, Cisco       [26]  33
02:27:44: RADIUS:   Cisco AVpair       [1]   27  "h323-ivr-out=color:violet"
02:27:44: RADIUS:  Vendor, Cisco       [26]  41
```

```
02:27:44: RADIUS:   Cisco AVpair       [1]   35  "h323-ivr-out=MethodName:sanjo_aaa4"
02:27:44: RADIUS:  Vendor, Cisco       [26]  38
02:27:44: RADIUS:   Cisco AVpair       [1]   32  "h323-ivr-out=account range: 55"
02:27:44: RADIUS:  Vendor, Cisco       [26]  33
02:27:44: RADIUS:   Cisco AVpair       [1]   27  "h323-ivr-out=color:red"
02:27:44: RADIUS:  Vendor, Cisco       [26]  41
02:27:44: RADIUS:   Cisco AVpair       [1]   35  "h323-ivr-out=MethodName:sanjo_aaa4"
02:27:44: RADIUS:  NAS-Port-Type       [61]  6   Async                     [0]
02:27:44: RADIUS:  Vendor, Cisco       [26]  19
02:27:44: RADIUS:   cisco-nas-port     [2]   13  "ISDN 0:D:23"
02:27:44: RADIUS:  Calling-Station-Id  [31]  12  "4111234567"
02:27:44: RADIUS:  Called-Station-Id   [30]  7   "13120"
02:27:44: RADIUS:  Service-Type        [6]   6   Login                     [1]
02:27:44: RADIUS:  NAS-IP-Address      [4]   6   10.6.20.500
02:27:44: RADIUS:  Delay-Time          [41]  6   0
02:27:44: RADIUS: Send to unknown id 20 10.6.20.60:1704, Access-Request, len 170 <--
Authentication request sent
02:27:44: RADIUS:  authenticator 12 F5 47 5D 2D 07 74 A4 - 97 02 33 36 14 34 DE 07     to
server specified in
02:27:44: RADIUS:  User-Name           [1]   8   ”555555”     application  and defined in
02:27:44: RADIUS:  User-Password       [2]   18  *     CLI.  NOTE: authentication
02:27:44: RADIUS:  Vendor, Cisco       [26]  56        Is not used in standard debit app
02:27:44: RADIUS:   Conf-Id            [24]  50  "h323-conf-id=2E17E6F2 8E6611D4 8048FAFD
CD27A5B5"
02:27:44: RADIUS:  Vendor, Cisco       [26]  37       but was included here to exercise
02:27:44: RADIUS:   Cisco AVpair       [1]   31  "h323-ivr-out=transactionID:20”     AAA
authentication tcl verb.
02:27:44: RADIUS:  NAS-Port-Type       [61]  6   Async                     [0]     Also
authentication
02:27:44: RADIUS:  Vendor, Cisco       [26]  19      done using account number
02:27:44: RADIUS:   cisco-nas-port     [2]   13  "ISDN 0:D:23”      instead  of ANI.
02:27:44: RADIUS:  NAS-IP-Address      [4]   6   10.6.20.500
02:27:44: RADIUS: Send to unknown id 21 10.6.20.60:1704, Access-Request, len 200   <--
Authorization request
02:27:44: RADIUS:  authenticator CA 67 12 31 EE 78 19 F4 - 4E 4E 21 1B FB DB B2 06
02:27:44: RADIUS:  User-Name           [1]   8   ”0555550"
02:27:44: RADIUS:  User-Password       [2]   18  *
02:27:44: RADIUS:  Vendor, Cisco       [26]  56
02:27:44: RADIUS:   Conf-Id            [24]  50  "h323-conf-id=2E17E6F2 8E6611D4 8048FAFD
CD27A5B5"
02:27:44: RADIUS:  Vendor, Cisco       [26]  37
02:27:44: RADIUS:   Cisco AVpair       [1]   31  "h323-ivr-out=transactionID:21"
02:27:44: RADIUS:  Calling-Station-Id  [31]  12  "4111234567"
02:27:44: RADIUS:  NAS-Port-Type       [61]  6   Async                     [0]
02:27:44: RADIUS:  Vendor, Cisco       [26]  19
02:27:44: RADIUS:   cisco-nas-port     [2]   13  "ISDN 0:D:23"
02:27:44: RADIUS:  Calling-Station-Id  [31]  12  "4111234567"
02:27:44: RADIUS:  Service-Type        [6]   6   Login                     [1]
02:27:44: RADIUS:  NAS-IP-Address      [4]   6   10.6.20.500
02:27:44: RADIUS: Received from id 10 10.5.20.60:1234, Accounting-response, len 20     <--
AccountingResponse from 02:27:44: RADIUS:  authenticator E8 35 04 32 38 3E 78 78 - F1 D4
38 10 41 F3 EE F3         Radius observed
02:27:44: RADIUS: Received from id 20 10.6.20.60:1704, Access-Accept, len 200
<-- Response from Radius
02:27:44: RADIUS:  authenticator 46 30 66 55 18 DC 82 A0 - 05 14 ED D8 3B 17 0C E7
02:27:44: RADIUS:  Vendor, Cisco       [26]  27
02:27:44: RADIUS:   Cisco AVpair       [1]   21  "h323-ivr-in=sanjose"
02:27:44: RADIUS:  Vendor, Cisco       [26]  34
02:27:44: RADIUS:   Cisco AVpair       [1]   28  "h323-credit-amount=5555.55"
02:27:44: RADIUS:  Vendor, Cisco       [26]  26
02:27:44: RADIUS:   Cisco AVpair       [1]   20  "h323-return-code=0"
02:27:44: RADIUS:  Vendor, Cisco       [26]  30
02:27:44: RADIUS:   h323-credit-time   [102] 24  "h323-credit-time=54123"
02:27:44: RADIUS:  Vendor, Cisco       [26]  33
```

```
02:27:44: RADIUS:   h323-billing-model [109] 27  "h323-billing-model=prepay"
02:27:44: RADIUS:  Vendor, Cisco       [26]  24
02:27:44: RADIUS:   h323-currency      [110] 18  "h323-currency=US"
02:27:44: RADIUS:  Idle-Timeout        [28]  6   30
02:27:44: RADIUS: Received from id 24
02:27:44: RADIUS: Received from id 21 10.6.20.60:1704, Access-Accept, len 200
02:27:44: RADIUS:  authenticator 0F 13 36 EA B1 FC B3 95 - 85 FC CC FE 1F 2F 95 D0
02:27:44: RADIUS:  Vendor, Cisco       [26]  27
02:27:44: RADIUS:   Cisco AVpair       [1]   21  "h323-ivr-in=sanjose"
02:27:44: RADIUS:  Vendor, Cisco       [26]  34
02:27:44: RADIUS:   Cisco AVpair       [1]   28  "h323-credit-amount=5555.55"
02:27:44: RADIUS:  Vendor, Cisco       [26]  26
02:27:44: RADIUS:   Cisco AVpair       [1]   20  "h323-return-code=0"
02:27:44: RADIUS:  Vendor, Cisco       [26]  30
02:27:44: RADIUS:   h323-credit-time   [102] 24  "h323-credit-time=54123"
02:27:44: RADIUS:  Vendor, Cisco       [26]  33
02:27:44: RADIUS:   h323-billing-model [109] 27  "h323-billing-model=prepay"
02:27:44: RADIUS:  Vendor, Cisco       [26]  24
02:27:44: RADIUS:   h323-currency      [110] 18  "h323-currency=US"
02:27:44: RADIUS:  Idle-Timeout        [28]  6   30
02:27:44: RADIUS: Received from id 24
```

In Figure 2, the caller places a call to MGCP 1 with a modified debit card application applied to an incoming POTS dial peer. After the caller enters the card number (for example, 7777770001), the AAA requests are directed to RADIUS server 1.

Figure 2 AAA Redirect Using An Account Number: Scenario 2



Shown below are some Cisco IOS configuration examples for the topology in Figure 2:

```
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname mgcp1
!
```

```
aaa new-model
!
!
aaa group server radius sg1
 server 10.6.20.60 auth-port 1698 acct-port 1699
!
aaa group server radius sg4
 server 10.6.20.60 auth-port 1704 acct-port 1705
!
aaa group server radius sg6
 server 10.6.20.60 auth-port 1708 acct-port 1709
!
aaa authentication login sanjo_aaa1 group sg1
aaa authentication login sanjo_aaa4 group sg4
aaa authentication login sanjo_aaa6 group sg6
aaa authorization exec sanjo_aaa1 group sg1
aaa authorization exec sanjo_aaa4 group sg4
aaa authorization exec sanjo_aaa6 group sg6
aaa accounting connection sanjo_aaa1 start-stop group sg1
aaa accounting connection sanjo_aaa4 start-stop group sg4
aaa accounting connection sanjo_aaa6 start-stop group sg6
aaa session-id common
!
resource-pool disable
!
ip subnet-zero
ip host milp 10.223.254.255
!
isdn switch-type primary-5ess
!
fax interface-type modem
mta receive maximum-recipients 0
!
controller T1 3
 framing esf
 clock source line secondary
 linecode b8zs
 pri-group timeslots 1-24
!
gw-accounting aaa
!
interface Ethernet0
 ip address 10.0.254.255
 no ip redirects
 no ip mroute-cache
 no cdp enable
!
interface Serial0:23
 no ip address
 isdn switch-type primary-5ess
 isdn T321 0
 isdn T310 4000
 no cdp enable
!
interface Serial3:23
 no ip address
 trunk-group 1
 isdn switch-type primary-5ess
 isdn incoming-voice modem
 isdn T321 0
 no cdp enable
!
interface FastEthernet0
 ip address 10.1.2.3  254.254.255.0
```

```
 duplex auto
 speed auto
!
ip classless
ip route 254.255.1.0  223.254.10.0.1.5.0.1 <- Route to tftp server
no ip http server              10.223.254.255
radius-server host 10.6.20.60 auth-port 1704 acct-port 1705
radius-server host 10.6.20.60 auth-port 1698 acct-port 1699
radius-server retransmit 3
radius-server key cisco
radius-server vsa send accounting
radius-server vsa send authentication
call rsvp-sync
call accounting-template voice cdr1 tftp://10.223.254.255/johndoe/sanjose/cdr/cdr1.cdr
call accounting-template voice cdr2 tftp://10.223.254.255/johndoe/sanjose/cdr/cdr2.cdr
call language voice en tftp://milp/doe/scripts/multi-lang/en_translate.tcl
!
call application voice integ_debit
tftp://10.223.254.255/johndoe/sanjose/apps/debitcard_int_redirect.tcl
call application voice integ_debit uid-len 6
call application voice integ_debit language 1 en
call application voice integ_debit language 2 sp
call application voice integ_debit set-location en 0
tftp://10.223.254.255/johndoe/prompts/en/
call application voice integ_debit set-location sp 0 tftp://10.6.20.50/prompts/
!
call application voice plain_debit
tftp://10.223.254.255/johndoe/sanjose/apps/debitcard.tcl
call application voice plain_debit uid-len 6
call application voice plain_debit language 1 en
call application voice plain_debit language 2 sp
call application voice plain_debit set-location en 0
tftp://10.223.254.255/johndoe/prompts/en/
call application voice plain_debit set-location sp 0 tftp://10.6.20.50/prompts/
!
voice-port 3:D
!
voice-port 0:D
!
dial-peer cor custom
dial-peer voice 100 pots
 application integ_debit <-----------  !Modified debit app to play
 incoming called-number 13120           new dynamic prompts, do
dial-peer voice 101 voip                authentication,
 destination-pabcern 510…….            authorization,
 session target ipv4:10.0.0.1           accounting redirect
!                                       and use accounting
dial-peer voice 102 voip                template.
 destination-pabcern 408.......
 session target ipv4:10.0.0.1
!
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
!
end
```

Debit Card Application for Directing AAA Requests Using an Account Number

A debit card application for directing AAA requests using an account number is shown below:

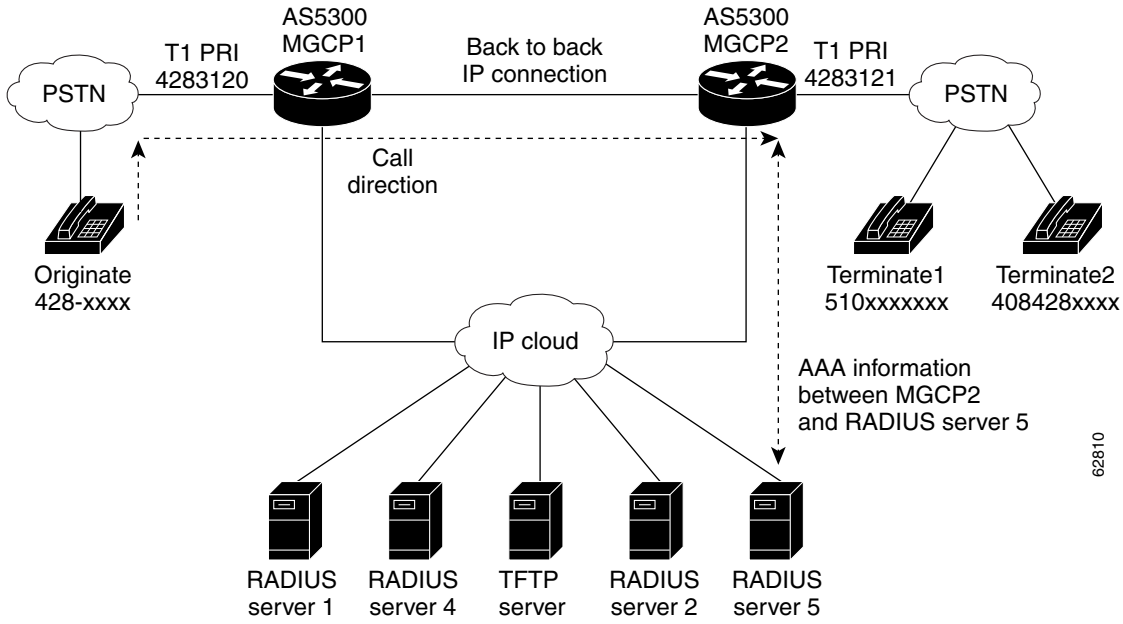
```
proc act_GotCardNumber { } {
    global count
    global retryCnt
    global promptFlag
    global account
    global pin
    global accountLen
    global cardLen
    global pinLen
    global ani
    global method
    global acct-template

    set status [infotag get evt_status]

    # Do we need to calculate len ???
    if {$status == "cd_005"} {
    set number [infotag get evt_dcdigits]
    set numberLen [ string length $number ]
    if { $numberLen == $cardLen } {
             set account [ string range $number 0 [expr $accountLen -1]]
             set pin [ string range $number $accountLen [expr $cardLen -1]]


        ######################################
        # Select Servertag based on first 2  #
        # digits of account number.          #
        ######################################
        set spcode [ string range $account 0 1]

        if { $spcode == 77 } {
        set method "sanjo_aaa1"
        set avList(h323-ivr-out,1) "account range: 77"
        set avList(h323-ivr-out,2) "color:violet"
        set avList(h323-ivr-out,3) "MethodName:sanjo_aaa1"
        puts "note that accounting template cdr1 needs to be defined in IOS CLI"
        set acct-template "cdr1"
puts "$spcode"
        set method "sanjo_aaa4"
        set avList(h323-ivr-out,1) "account range: 55"
        set avList(h323-ivr-out,2) "color:red"
        set avList(h323-ivr-out,3) "MethodName:sanjo_aaa4"
        set acct-template "cdr2"
        } else {
           set method "h323"
        set acct-template "none"
        }

        puts "THIS IS THE METHOD LIST USED: $method \r"
        puts "THIS IS THE TEMPLATE USED   : $template \r"

        #Do accounting
        if { $method != "h323" } {
             aaa accounting start leg_incoming -a avList -s $method -t $template
        set avList(h323-ivr-out,2) "color:purple"
        aaa accounting update leg_incoming -a avList -s $method -t $template

            # supppress service provide module automatically generating
```

```
            # accounting records on outgoing call leg

            infotag set leg_suppress_outgoing_auto_acct 1

        #Do authenticate
            puts "\r DOING AUTHENTICATION on account number and pin \r"
            aaa authenticate $account $pin -s $method

        puts "\r DOING AUTHORIZATION \r"
        # DO authorize
            aaa authorize $account $pin $ani "" leg_incoming -s $method

        } else {
            aaa accounting start leg_incoming -a avList -s $method
                set avList(h323-ivr-out,2) "color:indigo"
                aaa accounting update leg_incoming -a avList -s $method

                # supppress service provide module automatically generating
                # accounting records on outgoing call leg

                infotag set leg_suppress_outgoing_auto_acct 1
infotag set leg_suppress_outgoing_auto_acct 1

        #Do authenticate
            puts "\r DOING AUTHENTICATION on account number and pin \r"
            aaa authenticate $account $pin -s $method

        puts "\r DOING AUTHORIZATION \r"
        # DO authorize
            aaa authorize $account $pin $ani "" leg_incoming -s $method

        } else {
            aaa accounting start leg_incoming -a avList -s $method
                set avList(h323-ivr-out,2) "color:indigo"
                aaa accounting update leg_incoming -a avList -s $method

                # supppress service provide module automatically generating
                # accounting records on outgoing call leg

                infotag set leg_suppress_outgoing_auto_acct 1

        #Do authenticate for using default h323 method list
                puts "\r DOING AUTHENTICATION \r"
                aaa authenticate $account $pin -s $method
                puts "\r DOING AUTHORIZATION \r"
                 aaa authorize $account $pin $ani "" leg_incoming -s $method
         }
```

Directing AAA Traffic Using Called Number

In Figure 3, the caller places a phone call to MGCP 1. A modified debit card application is applied to an incoming POTS dial peer. The caller enters the card number and the destination number sequence which is completed at MGCP 1. The destination number (for example 408-428-xxxx) is now dialed and directed to MGCP 2. Accounting information based on the called number is directed from MGCP 2 to RADIUS server 5.

Figure 3 Directing AAA Traffic Using Called Number



An example of a AAA redirect using the called number is shown below:

```
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname mgcp2
!
aaa new-model
!
!
aaa group server radius sg2
 server 10.6.20.60 auth-port 1700 acct-port 1701
!
aaa group server radius sg5
 server 10.6.20.60 auth-port 1706 acct-port 1707
!
aaa group server radius sg6
 server 10.6.20.60 auth-port 1708 acct-port 1709
!
aaa accounting connection sanjo_aaa5 start-stop group sg5
aaa accounting connection sanjo_aaa2 start-stop group sg2
aaa session-id common
!
username lab password 0 lab
!
!
resource-pool disable
!
ip subnet-zero
!
isdn switch-type primary-5ess
voice class aaa 2
 accounting method sanjo_aaa2
!
voice class aaa 5
```

```
 accounting method sanjo_aaa5
!
!
fax interface-type modem
mta receive maximum-recipients 0
!
controller T1 0
 framing sf
 clock source line primary
 linecode ami
!
controller T1 1
 framing sf
 clock source line secondary 1
 linecode ami
!
controller T1 2
 framing sf
 linecode ami
!
controller T1 3
 framing esf
 linecode b8zs
 pri-group timeslots 1-24
!
gw-accounting aaa
!
!
!
interface Ethernet0
 ip address 10.6.20.501 254.255.1.0
 no cdp enable
interface Serial3:23
 no ip address
 isdn switch-type primary-5ess
 isdn incoming-voice modem
 no cdp enable
!
interface FastEthernet0
 ip address 10.0.0.1 255.255.255.0
 duplex auto
 speed auto
!
ip classless
ip route 254.255.1.0  223.254.10.0.1.5.0.1
no ip http server
!
!
!
radius-server host 10.6.20.60 auth-port 1700 acct-port 1701 key cisco
radius-server host 10.6.20.60 auth-port 1706 acct-port 1707 key cisco
radius-server retransmit 3
radius-server key cisco
radius-server vsa send accounting
radius-server vsa send authentication

voice-port 3:D
!
!
mgcp profile default
!
```

On the terminating side, the incoming dial peers are VoIP. In this configuration, if the incoming called number begins with 510, VoIP dial peer 101 is applied. If the incoming called number begins with 408, VoIP dial peer 102 is applied.

```
dial-peer voice 100 pots
 destination-pabcern 510 ......
 port 3:D
 prefix 91510 .......
!
dial-peer voice 101 voip
 incoming called-number 510 .......
 voice-class aaa 5
!
dial-peer voice 200 pots
 destination-pabcern 408......
 port 3:D
 prefix 9
!
dial-peer voice 102 voip
 incoming called-number 408.......
 voice-class aaa 2
!
dial-peer voice 300 pots
 application integ_debit
 incoming called-number .
 port 3:D
!
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
!
end
```

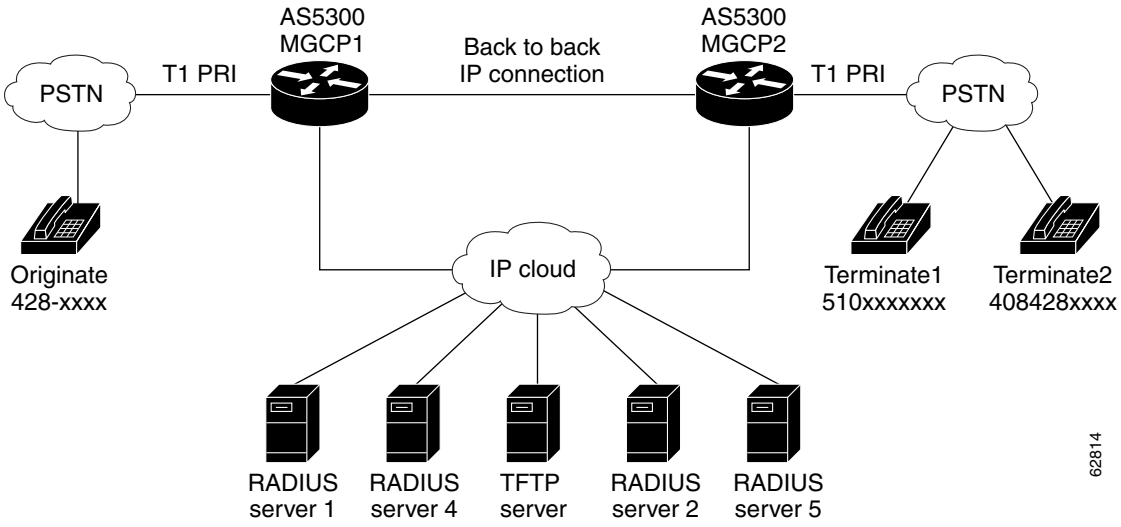
Directing Accounting Templates Using Called Number

In Figure 4 below, accounting template cdr1 allows h323-gw-id av pair but does not allow h323-call-origin. Accounting template cdr2 allows h323-call-origin but does not allow h323-gw-id av pair. The caller places a phone call to MGCP 1. A modified debit card application is applied to an incoming POTS dial peer.

Accounting template cdr1 is selected using an account number (for example 7777770001). To verify that cdr1 was applied correctly, examine the accounting record on RADIUS server 1.

Accounting template cdr2 is selected using an account number (for example 5555550001). To verify that cdr2 was applied correctly, examine the accounting record on RADIUS server 2.

Figure 4 Selecting Accounting Templates Using an Account Number



Shown below is an example of directing an accounting template using an incoming called number:

```
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname mgcp1
!
aaa new-model
!
!
aaa group server radius sg1
 server 10.6.20.60 auth-port 1698 acct-port 1699
!
aaa group server radius sg4
 server 10.6.20.60 auth-port 1704 acct-port 1705
!
aaa group server radius sg6
 server 10.6.20.60 auth-port 1708 acct-port 1709
!
aaa authentication login sanjo_aaa1 group sg1
aaa authentication login sanjo_aaa4 group sg4
aaa authentication login sanjo_aaa6 group sg6
aaa authorization exec sanjo_aaa1 group sg1
aaa authorization exec sanjo_aaa4 group sg4
aaa authorization exec sanjo_aaa6 group sg6
aaa accounting connection sanjo_aaa1 start-stop group sg1
aaa accounting connection sanjo_aaa4 start-stop group sg4
aaa accounting connection sanjo_aaa6 start-stop group sg6
aaa session-id common
!
!
!
resource-pool disable
!
ip subnet-zero
ip host milp 10.223.254.255
trunk group  1
 carrier-id test
 hunt-scheme least-used both
```

```
!
isdn switch-type primary-5ess
!
voice class aaa 1
!
voice class aaa 6
 authentication method sanjo_aaa6
 authorization method sanjo_aaa6
 accounting method sanjo_aaa6
!
!
!
fax interface-type modem
mta receive maximum-recipients 0
!
controller T1 0
 framing sf
 linecode ami
!
controller T1 1
 framing sf
 clock source line secondary 1
 linecode ami
!
controller T1 2
 framing sf
 linecode ami
!
controller T1 3
 framing esf
 clock source line primary
 linecode b8zs
 pri-group timeslots 1-24
!
gw-accounting aaa
!
interface Ethernet0
 ip address 10.0.254.255
 no ip redirects
 no ip mroute-cache
 no cdp enable
!
interface Serial3:23
 no ip address
 trunk-group 1
 isdn switch-type primary-5ess
 isdn incoming-voice modem
 isdn T321 0
 no cdp enable
!
interface FastEthernet0
 ip address 10.1.2.3  254.254.255.0
 duplex auto
 speed auto
!
ip classless
ip route 254.255.1.0  223.254.10.0.1.5.0.1
no ip http server
!
radius-server host 10.6.20.60 auth-port 1708 acct-port 1709
radius-server host 10.6.20.60 auth-port 1704 acct-port 1705
radius-server host 10.6.20.60 auth-port 1698 acct-port 1699
radius-server host 10.6.43.255 auth-port 1645 acct-port 1646
radius-server host 10.6.37.10 auth-port 1645 acct-port 1646
```

```
radius-server retransmit 3
radius-server key cisco
radius-server vsa send accounting
radius-server vsa send authentication
call rsvp-sync
call accounting-template voice cdr1 tftp://10.223.254.255/johndoe/sanjose/cdr/cdr1.cdr
call accounting-template voice cdr2 tftp://10.223.254.255/johndoe/sanjose/cdr/cdr2.cdr
call language voice en tftp://milp/doe/scripts/multi-lang/en_translate.tcl
!
call application voice acct_redirect_debit
tftp://10.6.20.50/sanjose/apps/debitcard_acct_redirect.tcl
call application voice acct_redirect_debit uid-len 6
call application voice acct_redirect_debit language 1 en
call application voice acct_redirect_debit language 2 sp
call application voice acct_redirect_debit set-location en 0 tftp://10.6.20.50/prompts/
call application voice acct_redirect_debit set-location sp 0 tftp://10.6.20.50/prompts/
!
call application voice integ_debit
tftp://10.223.254.255/johndoe/sanjose/apps/debitcard_int_redirect.tcl
call application voice integ_debit uid-len 6
call application voice integ_debit language 1 en
call application voice integ_debit language 2 sp
call application voice integ_debit set-location en 0
tftp://10.223.254.255/johndoe/prompts/en/
call application voice integ_debit set-location sp 0 tftp://10.6.20.50/prompts/
!
call application voice plain_debit
tftp://10.223.254.255/johndoe/sanjose/apps/debitcard.tcl
call application voice plain_debit uid-len 6
call application voice plain_debit language 1 en
call application voice plain_debit language 2 sp
call application voice plain_debit set-location en 0
tftp://10.223.254.255/johndoe/prompts/en/
call application voice plain_debit set-location sp 0 tftp://10.6.20.50/prompts/
!
voice-port 3:D
!
!
mgcp profile default
!
dial-peer cor custom
!
dial-peer voice 100 pots
 debitcard_acct_redirect.tcl
 incoming called-number .
!
dial-peer voice 101 voip
 destination-pattern 1111234567
 session target ipv4:10.0.0.1
!
dial-peer voice 102 voip
 destination-pattern 408.......
 session target ipv4:10.0.0.1
!
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
!
end
```