

AAA 서버를 사용하여 네트워크 액세스 서버에서 IP 풀 관리

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소개

이 문서에서는 AAA 서버를 사용하여 NAS(Network Access Server)에서 IP 풀을 관리하기 위한 샘플 컨피그레이션을 제공합니다.

시작하기 전에

표기 규칙

문서 표기 규칙에 대한 자세한 내용은 [Cisco 기술 팁 표기 규칙을 참조하십시오](#).

사전 요구 사항

이 문서에 대한 특정 요건이 없습니다.

사용되는 구성 요소

이 문서의 정보는 아래 소프트웨어 및 하드웨어 버전을 기반으로 합니다.

- Cisco IOS[®] 소프트웨어 릴리스 12.0.7.T

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 라이브 네트워크에서 작업하는 경우, 사용하기 전에 모든 명령의 잠재적인 영향을 이해해야 합니다.

IP 풀

IPCP(IP Control Protocol) 주소 협상 중에 사용자에게 IP 풀 이름이 지정된 경우 NAS는 명명된 풀이 로컬에서 정의되었는지 확인합니다. 이 경우 특별한 작업이 필요하지 않으며 로컬 풀에서 IP 주소를 확인합니다. 필요한 풀이 없는 경우 특수 사용자 이름 "pools-nas-name"을 사용하여 권한 부여 호출을 수행합니다. 여기서 "nas-name"은 NAS의 구성된 호스트 이름입니다. 이에 따라 AAA 서버는 필요한 풀의 컨피그레이션을 다운로드합니다. 선택한 명령의 `aaa configuration-username` 이름으로 다른 풀 사용자 이름을 구성할 수 있습니다.

이 명령은 풀 정의를 다운로드하는 데 사용되는 사용자 이름을 기본 이름 "pools-NAS-name"에서 "name-of-your-choosing"으로 변경하는 효과를 갖습니다.

Cisco NAS에 다운로드된 풀은 비휘발성 메모리에 보존되지 않으며 액세스 서버 또는 라우터가 다시 시작될 때마다 자동으로 사라집니다. 적절한 AV 쌍을 추가하여 다운로드된 풀을 자동으로 시간 초과로 설정할 수도 있습니다. 다운로드한 풀은 `show ip local pools` 명령 출력에서 동적으로 표시됩니다.

RADIUS NAS 구성

```
aaa new-model
aaa authentication login default group radius
aaa authentication ppp default if-needed group radius
aaa authorization network default group radius
aaa configuration config-username nas1-pools
radius-server host 172.18.124.114 auth-port 1645 acct-port 1646
radius-server key cisco
```

AAA 서버 NAS 풀 프로파일

```
./ViewProfile -p 9900 -u nas1-pools
User Profile Information
user = nas1-pools
profile_id=63
profile_cycle = 7
member = nas_profiles
password = pap "*****"
radius=Cisco {
reply_attributes= {
6=5
9,1="ip:pool-def#1= pool1 172.22.83.2 172.22.83.253"
}
}
}
```

이 예에서는 CiscoSecure UNIX(CSU) 서버에서 생성된 사용자 "nas1-pools"를 보여 줍니다. 이 항목은 아웃바운드 사용자 {6=5}의 사용자 서비스 유형을 지정합니다. 이 특성은 일반 로그인인 nas1-pools/cisco의 잘 알려진 사용자 이름 및 비밀번호 조합을 사용하지 못하도록 NAS에서 제공합니다.

AAA 서버 사용자 프로필

```

./ViewProfile -p 9900 -u pool_test
user = pool_test{
profile_id = 46
profile_cycle = 14
member = dial_rad
password = pap "*****"
radius=Cisco {
reply_attributes= {
7=1
6=2
9,1="ip:addr-pool=pool1"
}
}
}

```

확인

사용자 "pool_test"가 AAA 서버의 pool1에서 다이얼하고 IP 주소가 할당됩니다.

```

as5300#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
as5300#term mon
as5300#
00:26:01: %LINK-3-UPDOWN: Interface Async5, changed state to up
00:26:01: As5 PPP: Treating connection as a dedicated line
00:26:01: As5 PPP: Phase is ESTABLISHING, Active Open
00:26:01: As5 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
00:26:01: As5 LCP: O CONFREQ [Closed] id 1 len 24
00:26:01: As5 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:26:01: As5 LCP:   AuthProto PAP (0x0304C023)
00:26:01: As5 LCP:   MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:01: As5 LCP:   PFC (0x0702)
00:26:01: As5 LCP:   ACFC (0x0802)
00:26:01: As5 LCP: I CONFACK [REQsent] id 1 len 24
00:26:01: As5 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:26:01: As5 LCP:   AuthProto PAP (0x0304C023)
00:26:01: As5 LCP:   MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:01: As5 LCP:   PFC (0x0702)
00:26:01: As5 LCP:   ACFC (0x0802)
00:26:02: As5 LCP: I CONFREQ [ACKrcvd] id 0 len 23
00:26:02: As5 LCP:   ACCM 0x00000000 (0x020600000000)
00:26:02: As5 LCP:   MagicNumber 0x00002BF7 (0x050600002BF7)
00:26:02: As5 LCP:   PFC (0x0702)
00:26:02: As5 LCP:   ACFC (0x0802)
00:26:02: As5 LCP:   Callback 6 (0x0D0306)
00:26:02: As5 LCP: O CONFREQ [ACKrcvd] id 0 len 7
00:26:02: As5 LCP:   Callback 6 (0x0D0306)
00:26:03: As5 LCP: TIMEOUT: State ACKrcvd
00:26:03: As5 LCP: O CONFREQ [ACKrcvd] id 2 len 24
00:26:03: As5 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:26:03: As5 LCP:   AuthProto PAP (0x0304C023)
00:26:03: As5 LCP:   MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:03: As5 LCP:   PFC (0x0702)
00:26:03: As5 LCP:   ACFC (0x0802)
00:26:03: As5 LCP: I CONFACK [REQsent] id 2 len 24

```

```
00:26:03: As5 LCP: ACCM 0x000A0000 (0x0206000A0000)
00:26:03: As5 LCP: AuthProto PAP (0x0304C023)
00:26:03: As5 LCP: MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:03: As5 LCP: PFC (0x0702)
00:26:03: As5 LCP: ACFC (0x0802)
00:26:05: As5 LCP: TIMEout: State ACKrcvd
00:26:05: As5 LCP: O CONFREQ [ACKrcvd] id 3 len 24
00:26:05: As5 LCP: ACCM 0x000A0000 (0x0206000A0000)
00:26:05: As5 LCP: AuthProto PAP (0x0304C023)
00:26:05: As5 LCP: MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:05: As5 LCP: PFC (0x0702)
00:26:05: As5 LCP: ACFC (0x0802)
00:26:05: As5 LCP: I CONFACK [REQsent] id 3 len 24
00:26:05: As5 LCP: ACCM 0x000A0000 (0x0206000A0000)
00:26:05: As5 LCP: AuthProto PAP (0x0304C023)
00:26:05: As5 LCP: MagicNumber 0xD0D1EC92 (0x0506D0D1EC92)
00:26:05: As5 LCP: PFC (0x0702)
00:26:05: As5 LCP: ACFC (0x0802)
00:26:06: As5 LCP: I CONFREQ [ACKrcvd] id 0 len 23
00:26:06: As5 LCP: ACCM 0x00000000 (0x020600000000)
00:26:06: As5 LCP: MagicNumber 0x00002BF7 (0x050600002BF7)
00:26:06: As5 LCP: PFC (0x0702)
00:26:06: As5 LCP: ACFC (0x0802)
00:26:06: As5 LCP: Callback 6 (0x0D0306)
00:26:06: As5 LCP: O CONFREQ [ACKrcvd] id 0 len 7
00:26:06: As5 LCP: Callback 6 (0x0D0306)
00:26:06: As5 LCP: I CONFREQ [ACKrcvd] id 1 len 20
00:26:06: As5 LCP: ACCM 0x00000000 (0x020600000000)
00:26:06: As5 LCP: MagicNumber 0x00002BF7 (0x050600002BF7)
00:26:06: As5 LCP: PFC (0x0702)
00:26:06: As5 LCP: ACFC (0x0802)
00:26:06: As5 LCP: O CONFACK [ACKrcvd] id 1 len 20
00:26:06: As5 LCP: ACCM 0x00000000 (0x020600000000)
00:26:06: As5 LCP: MagicNumber 0x00002BF7 (0x050600002BF7)
00:26:06: As5 LCP: PFC (0x0702)
00:26:06: As5 LCP: ACFC (0x0802)
00:26:06: As5 LCP: State is Open
00:26:06: As5 PPP: Phase is AUTHENTICATING, by this end
00:26:06: As5 LCP: I IDENTIFY [Open] id 2 len 18 magic 0x00002BF7 MSRASV4.00
00:26:06: As5 LCP: I IDENTIFY [Open] id 3 len 21 magic 0x00002BF7 MSRAS-1-ZEKIE
00:26:06: As5 PAP: I AUTH-REQ id 31 len 24 from "pool_test"
00:26:06: As5 PAP: Authenticating peer pool_test
00:26:06: AAA: parse name=Async5 idb type=10 tty=5
00:26:06: AAA: name=Async5 flags=0x11 type=4 shelf=0 slot=0 adapter=0
port=5 channel=0
00:26:06: AAA: parse name=Serial0:18 idb type=12 tty=-1
00:26:06: AAA: name=Serial0:18 flags=0x51 type=1 shelf=0 slot=0 adapter=0
port=0 channel=18
00:26:06: AAA/MEMORY: create_user (0x618FFBB0) user='pool_test' ruser=''
port='Async5' rem_addr='9194722001/9194724101' authen_type=PAP service=PPP priv=1
00:26:06: AAA/AUTHEN/START (2962877775): port='Async5' list='' action=LOGIN
service=PPP
00:26:06: AAA/AUTHEN/START (2962877775): using "default" list
00:26:06: AAA/AUTHEN (2962877775): status = UNKNOWN
00:26:06: AAA/AUTHEN/START (2962877775): Method=radius (radius)
00:26:06: RADIUS: ustruct sharecount=1
00:26:06: RADIUS: Initial Transmit Async5 id 10 172.18.124.114:1645,
Access-Request, len 103
00:26:06: Attribute 4 6 01010101
00:26:06: Attribute 5 6 00000005
00:26:06: Attribute 61 6 00000000
00:26:06: Attribute 1 11 706F6F6C
00:26:06: Attribute 30 12 39313934
00:26:06: Attribute 31 12 39313934
```

00:26:06: Attribute 2 18 FC2DE489
00:26:06: Attribute 6 6 00000002
00:26:06: Attribute 7 6 00000001
00:26:06: RADIUS: Received from id 10 172.18.124.114:1645, Access-Accept,
len 58
00:26:06: Attribute 7 6 00000001
00:26:06: Attribute 6 6 00000002
00:26:06: Attribute 26 26 0000000901146970
00:26:06: RADIUS: saved authorization data for user 618FFBB0 at 618FEAE4
00:26:06: AAA/AUTHEN (2962877775): status = PASS
00:26:06: As5 AAA/AUTHOR/LCP: Authorize LCP
00:26:06: As5 AAA/AUTHOR/LCP (3264835197): Port='Async5' list='' service=NET
00:26:06: AAA/AUTHOR/LCP: As5 (3264835197) user='pool_test'
00:26:06: As5 AAA/AUTHOR/LCP (3264835197): send AV service=ppp
00:26:06: As5 AAA/AUTHOR/LCP (3264835197): send AV protocol=lcp
00:26:06: As5 AAA/AUTHOR/LCP (3264835197): found list "default"
00:26:06: As5 AAA/AUTHOR/LCP (3264835197): Method=radius (radius)
00:26:06: RADIUS: cisco AVPair "ip:addr-pool=pool1" not applied for lcp
00:26:06: As5 AAA/AUTHOR (3264835197): Post authorization status = PASS_REPL
00:26:06: As5 AAA/AUTHOR/LCP: Processing AV service=ppp
00:26:06: As5 PAP: O AUTH-ACK id 31 len 5
00:26:06: As5 PPP: Phase is UP
00:26:06: As5 AAA/AUTHOR/FSM: (0): Can we start IPCP?
00:26:06: As5 AAA/AUTHOR/FSM (2404696831): Port='Async5' list='' service=NET
00:26:06: AAA/AUTHOR/FSM: As5 (2404696831) user='pool_test'
00:26:06: As5 AAA/AUTHOR/FSM (2404696831): send AV service=ppp
00:26:06: As5 AAA/AUTHOR/FSM (2404696831): send AV protocol=ip
00:26:06: As5 AAA/AUTHOR/FSM (2404696831): found list "default"
00:26:06: As5 AAA/AUTHOR/FSM (2404696831): Method=radius (radius)
00:26:06: RADIUS: cisco AVPair "ip:addr-pool=pool1"
00:26:06: As5 AAA/AUTHOR (2404696831): Post authorization status = PASS_REPL
00:26:06: As5 AAA/AUTHOR/FSM: We can start IPCP
00:26:06: As5 IPCP: O CONFREQ [Closed] id 1 len 10
00:26:06: As5 IPCP: Address 14.36.1.53 (0x03060E240135)
00:26:07: As5 CCP: I CONFREQ [Not negotiated] id 4 len 10
00:26:07: As5 CCP: MS-PPC supported bits 0x00000001 (0x120600000001)
00:26:07: As5 LCP: O PROTREJ [Open] id 4 len 16 protocol CCP
(0x80FD0104000A120600000001)
00:26:07: As5 IPCP: I CONFREQ [REQsent] id 5 len 40
00:26:07: As5 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
00:26:07: As5 IPCP: Address 0.0.0.0 (0x030600000000)
00:26:07: As5 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
00:26:07: As5 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
00:26:07: As5 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
00:26:07: As5 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
00:26:07: As5 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0
00:26:07: As5 AAA/AUTHOR/IPCP: Says use pool pool1
00:26:07: AAA: parse name=Async5 idb type=10 tty=5
00:26:07: AAA: name=Async5 flags=0x11 type=4 shelf=0 slot=0 adapter=0
port=5 channel=0
00:26:07: AAA: parse name=Serial0:18 idb type=12 tty=-1
00:26:07: AAA: name=Serial0:18 flags=0x51 type=1 shelf=0 slot=0 adapter=0
port=0 channel=18
00:26:07: AAA/MEMORY: create_user (0x618FFCD8) user='nas1-pools' ruser=''
port='Async5' rem_addr='9194722001/9194724101' authen_type=NONE service=NONE priv=1
00:26:07: As5 AAA/AUTHOR/POOL (3562270977): Port='Async5' list='' service=NET
00:26:07: AAA/AUTHOR/POOL: As5 (3562270977) user='nas1-pools'
00:26:07: As5 AAA/AUTHOR/POOL (3562270977): send AV service=ppp
00:26:07: As5 AAA/AUTHOR/POOL (3562270977): send AV protocol=ip
00:26:07: Async5 AAA/AUTHOR/POOL (3562270977): found list "default"
00:26:07: As5 AAA/AUTHOR/POOL (3562270977): Method=radius (radius)
00:26:07: RADIUS: authenticating to get author data
00:26:07: RADIUS: ustruct sharecount=2
00:26:07: RADIUS: Initial Transmit Async5 id 11 172.18.124.114:1645, Access-Request,

```

len 98
00:26:07:      Attribute 4 6 01010101
00:26:07:      Attribute 5 6 00000005
00:26:07:      Attribute 61 6 00000000
00:26:07:      Attribute 1 12 6E617331
00:26:07:      Attribute 30 12 39313934
00:26:07:      Attribute 31 12 39313934
00:26:07:      Attribute 2 18 E6DF8390
00:26:07:      Attribute 6 6 00000005
00:26:07: RADIUS: Received from id 11 172.18.124.114:1645, Access-Accept, len 69
00:26:07:      Attribute 6 6 00000005
00:26:07:      Attribute 26 43 0000000901256970
00:26:07: RADIUS: saved authorization data for user 618FFCD8 at 61450E5C
00:26:07: RADIUS: cisco AVPair "ip:pool-def#1=pool1 1.2.3.4 1.2.3.5"
00:26:07: AAA/AUTHOR (3562270977): Post authorization status = PASS_REPL
00:26:07: As5 AAA/AUTHOR/CONFIG: Processing AV pool-def#1=pool1 1.2.3.4 1.2.3.5
00:26:07: AAA/MEMORY: free_user (0x618FFCD8) user='nas1-pools' ruser=''
port='Async5' rem_addr='9194722001/9194724101' authen_type=NONE service=NONE
priv=1
00:26:07: As5 AAA/AUTHOR/IPCP: Pool returned 1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Authorization succeeded
00:26:07: As5 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.2.3.4
00:26:07: As5 IPCP: O CONFREJ [REQsent] id 5 len 34
00:26:07: As5 IPCP:      CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
00:26:07: As5 IPCP:      PrimaryDNS 0.0.0.0 (0x810600000000)
00:26:07: As5 IPCP:      PrimaryWINS 0.0.0.0 (0x820600000000)
00:26:07: As5 IPCP:      SecondaryDNS 0.0.0.0 (0x830600000000)
00:26:07: As5 IPCP:      SecondaryWINS 0.0.0.0 (0x840600000000)
00:26:07: As5 IPCP: I CONFACK [REQsent] id 1 len 10
00:26:07: As5 IPCP:      Address 14.36.1.53 (0x03060E240135)
00:26:07: As5 IPCP: I CONFREQ [ACKrcvd] id 6 len 10
00:26:07: As5 IPCP:      Address 0.0.0.0 (0x030600000000)
00:26:07: As5 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Authorization succeeded
00:26:07: As5 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.2.3.4
00:26:07: As5 IPCP: O CONFNAK [ACKrcvd] id 6 len 10
00:26:07: As5 IPCP:      Address 1.2.3.4 (0x030601020304)
00:26:07: As5 IPCP: I CONFREQ [ACKrcvd] id 7 len 10
00:26:07: As5 IPCP:      Address 1.2.3.4 (0x030601020304)
00:26:07: As5 AAA/AUTHOR/IPCP: Start. Her address 1.2.3.4, we want 1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Request 1.2.3.4 from pool pool1
00:26:07: As5 AAA/AUTHOR/IPCP: Pool grants 1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:26:07: As5 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:26:07: As5 AAA/AUTHOR/IPCP: Authorization succeeded
00:26:07: As5 AAA/AUTHOR/IPCP: Done. Her address 1.2.3.4, we want 1.2.3.4
00:26:07: As5 IPCP: O CONFACK [ACKrcvd] id 7 len 10
00:26:07: As5 IPCP:      Address 1.2.3.4 (0x030601020304)
00:26:07: As5 IPCP: State is Open
00:26:07: As5 IPCP: Install route to 1.2.3.4
00:26:07: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async5,
changed state to up

```

```
as5300#show caller ip
```

Line	User	IP Address	Local Number	Remote Number	<->
As5	pool_test	1.2.3.4	9194724101	9194722001	

```
as5300#show ip local pool
```

Pool	Begin	End	Free	In use

pool1

1.2.3.4

1.2.3.5

1

1 (dynamic)

TACACS+ NAS 컨피그레이션

```
aaa new-model
aaa authentication login default group tacacs+
aaa authentication ppp default if-needed group tacacs+
aaa authorization network default group tacacs+
aaa configuration config-username nas1-pools
tacacs-server host 172.18.124.114
tacacs-server key cisco
```

AAA 서버 NAS 풀 프로파일

```
./ViewProfile -p 9900 -u nas1-pools
User Profile Information
user = nas1-pools
profile_id = 63
profile_cycle = 8
service=ppp {
protocol=ip {
set pool-def#1="pool1 1.2.3.4 1.2.3.5"
}
}
}
```

AAA 서버 사용자 프로필

```
./ViewProfile -p 9900 -u pool_test
User Profile Information
user = pool_test{
profile_id = 46
profile_cycle = 15
password = pap "*****"
service=ppp {
protocol=lcp {
}
protocol=ip {
set addr-pool=pool1
}
}
}
```

디버그 출력

```
Script started on Mon Dec 10 13:22:05 2001
ddunlap@rtp-cse-353% telnet 172.18.124.114
Trying 172.18.124.114...
Connected to 172.18.124.114.
Escape character is '^'.
```

UNIX(r) System V Release 4.0 (rtp-evergreen)

```
login: root
Password:
```

```
Last login: Mon Dec 10 10:09:01 from rtp-cse-353.cisc
Sun Microsystems Inc.   SunOS 5.5.1   Generic May 1996
Sun Microsystems Inc.   SunOS 5.5.1   Generic May 1996
# telnet 14.36.1.53
Trying 14.36.1.53...
Connected to 14.36.1.53.
Escape character is '^']'.
```

User Access Verification

Username: testuser

Password:

as5300>en

Password:

as5300#**show debug**

General OS:

TACACS access control debugging is on

AAA Authentication debugging is on

AAA Authorization debugging is on

PPP:

PPP protocol negotiation debugging is on

as5300#**terminal monitor**

as5300#

```
00:06:29: As1 LCP: I CONFREQ [Closed] id 0 len 23
00:06:29: As1 LCP:   ACCM 0x00000000 (0x020600000000)
00:06:29: As1 LCP:   MagicNumber 0x00006D9C (0x050600006D9C)
00:06:29: As1 LCP:   PFC (0x0702)
00:06:29: As1 LCP:   ACFC (0x0802)
00:06:29: As1 LCP:   Callback 6 (0x0D0306)
00:06:29: As1 LCP: Lower layer not up, Fast Starting
00:06:29: As1 PPP: Treating connection as a dedicated line
00:06:29: As1 PPP: Phase is ESTABLISHING, Active Open
00:06:29: As1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
00:06:29: As1 LCP: O CONFREQ [Closed] id 1 len 24
00:06:29: As1 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:06:29: As1 LCP:   AuthProto PAP (0x0304C023)
00:06:29: As1 LCP:   MagicNumber 0xD0C0094C (0x0506D0C0094C)
00:06:29: As1 LCP:   PFC (0x0702)
00:06:29: As1 LCP:   ACFC (0x0802)
00:06:29: As1 LCP: O CONFREQ [REQsent] id 0 len 7
00:06:29: As1 LCP:   Callback 6 (0x0D0306)
00:06:29: %LINK-3-UPDOWN: Interface Async1, changed state to up
00:06:31: As1 LCP: TIMEOUT: State REQsent
00:06:31: As1 LCP: O CONFREQ [REQsent] id 2 len 24
00:06:31: As1 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:06:31: As1 LCP:   AuthProto PAP (0x0304C023)
00:06:31: As1 LCP:   MagicNumber 0xD0C0094C (0x0506D0C0094C)
00:06:31: As1 LCP:   PFC (0x0702)
00:06:31: As1 LCP:   ACFC (0x0802)
00:06:31: As1 LCP: I CONFACK [REQsent] id 2 len 24
00:06:31: As1 LCP:   ACCM 0x000A0000 (0x0206000A0000)
00:06:31: As1 LCP:   AuthProto PAP (0x0304C023)
00:06:31: As1 LCP:   MagicNumber 0xD0C0094C (0x0506D0C0094C)
00:06:31: As1 LCP:   PFC (0x0702)
00:06:31: As1 LCP:   ACFC (0x0802)
00:06:32: As1 LCP: I CONFREQ [ACKrcvd] id 0 len 23
00:06:32: As1 LCP:   ACCM 0x00000000 (0x020600000000)
00:06:32: As1 LCP:   MagicNumber 0x00006D9C (0x050600006D9C)
00:06:32: As1 LCP:   PFC (0x0702)
00:06:32: As1 LCP:   ACFC (0x0802)
00:06:32: As1 LCP:   Callback 6 (0x0D0306)
00:06:32: As1 LCP: O CONFREQ [ACKrcvd] id 0 len 7
```



```
00:06:32: As1 LCP: Callback 6 (0x0D0306)
00:06:32: As1 LCP: I CONFREQ [ACKrcvd] id 1 len 20
00:06:32: As1 LCP: ACCM 0x00000000 (0x020600000000)
00:06:32: As1 LCP: MagicNumber 0x00006D9C (0x050600006D9C)
00:06:32: As1 LCP: PFC (0x0702)
00:06:32: As1 LCP: ACFC (0x0802)
00:06:32: As1 LCP: O CONFACK [ACKrcvd] id 1 len 20
00:06:32: As1 LCP: ACCM 0x00000000 (0x020600000000)
00:06:32: As1 LCP: MagicNumber 0x00006D9C (0x050600006D9C)
00:06:32: As1 LCP: PFC (0x0702)
00:06:32: As1 LCP: ACFC (0x0802)
00:06:32: As1 LCP: State is Open
00:06:32: As1 PPP: Phase is AUTHENTICATING, by this end
00:06:32: As1 LCP: I IDENTIFY [Open] id 2 len 18 magic 0x00006D9C MSRASV4.00
00:06:32: As1 LCP: I IDENTIFY [Open] id 3 len 21 magic 0x00006D9C MSRAS-1-ZEKIE
00:06:32: As1 PAP: I AUTH-REQ id 24 len 24 from "pool_test"
00:06:32: As1 PAP: Authenticating peer pool_test
00:06:32: AAA: parse name=Async1 idb type=10 tty=1
00:06:32: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0
adapter=0 port=1 channel=0
00:06:32: AAA: parse name=Serial0:18 idb type=12 tty=-1
00:06:32: AAA: name=Serial0:18 flags=0x51 type=1 shelf=0 slot=0
adapter=0 port=0 channel=18
00:06:32: AAA/MEMORY: create_user (0x61B26890) user='pool_test'
ruser='' port='Async1' rem_addr='9194722001/9194724101' authen_type=PAP
service=PPP priv=1
00:06:32: AAA/AUTHEN/START (4053426223): port='Async1' list=''
action=LOGIN service=PPP
00:06:32: AAA/AUTHEN/START (4053426223): using "default" list
00:06:32: AAA/AUTHEN (4053426223): status = UNKNOWN
00:06:32: AAA/AUTHEN/START (4053426223): Method=tacacs+ (tacacs+)
00:06:32: TAC+: send AUTHEN/START packet ver=193 id=4053426223
00:06:32: TAC+: Using default tacacs server-group "tacacs+" list.
00:06:32: TAC+: Opening TCP/IP to 172.18.124.114/49 timeout=10
00:06:32: TAC+: Opened TCP/IP handle 0x618FDF3C to 172.18.124.114/49
using source 14.36.1.53
00:06:32: TAC+: 172.18.124.114 (4053426223) AUTHEN/START/LOGIN/PAP queued
00:06:32: TAC+: (4053426223) AUTHEN/START/LOGIN/PAP processed
00:06:32: TAC+: ver=193 id=4053426223 received AUTHEN status = PASS
00:06:32: AAA/AUTHEN (4053426223): status = PASS
00:06:32: TAC+: Closing TCP/IP 0x618FDF3C connection to 172.18.124.114/49
00:06:32: As1 AAA/AUTHOR/LCP: Authorize LCP
00:06:32: As1 AAA/AUTHOR/LCP (2507907283): Port='Async1' list='' service=NET
00:06:32: AAA/AUTHOR/LCP: As1 (2507907283) user='pool_test'
00:06:32: As1 AAA/AUTHOR/LCP (2507907283): send AV service=ppp
00:06:32: As1 AAA/AUTHOR/LCP (2507907283): send AV protocol=lcp
00:06:32: As1 AAA/AUTHOR/LCP (2507907283): found list "default"
00:06:32: As1 AAA/AUTHOR/LCP (2507907283): Method=tacacs+ (tacacs+)
00:06:32: AAA/AUTHOR/TAC+: (2507907283): user=pool_test
00:06:32: AAA/AUTHOR/TAC+: (2507907283): send AV service=ppp
00:06:32: AAA/AUTHOR/TAC+: (2507907283): send AV protocol=lcp
00:06:32: TAC+: using previously set server 172.18.124.114 from group tacacs+
00:06:32: TAC+: Opening TCP/IP to 172.18.124.114/49 timeout=10
00:06:32: TAC+: Opened TCP/IP handle 0x61B3B1A4 to 172.18.124.114/49
using source 14.36.1.53
00:06:32: TAC+: Opened 172.18.124.114 index=1
00:06:32: TAC+: 172.18.124.114 (2507907283) AUTHOR/START queued
00:06:33: TAC+: (2507907283) AUTHOR/START processed
00:06:33: TAC+: (2507907283): received author response status = PASS_ADD
00:06:33: TAC+: Closing TCP/IP 0x61B3B1A4 connection to 172.18.124.114/49
00:06:33: As1 AAA/AUTHOR (2507907283): Post authorization status = PASS_ADD
00:06:33: As1 PAP: O AUTH-ACK id 24 len 5
00:06:33: As1 PPP: Phase is UP
00:06:33: As1 AAA/AUTHOR/FSM: (0): Can we start IPCP?
```

```
00:06:33: As1 AAA/AUTHOR/FSM (924563050): Port='Async1' list='' service=NET
00:06:33: AAA/AUTHOR/FSM: As1 (924563050) user='pool_test'
00:06:33: As1 AAA/AUTHOR/FSM (924563050): send AV service=ppp
00:06:33: As1 AAA/AUTHOR/FSM (924563050): send AV protocol=ip
00:06:33: As1 AAA/AUTHOR/FSM (924563050): found list "default"
00:06:33: As1 AAA/AUTHOR/FSM (924563050): Method=tacacs+ (tacacs+)
00:06:33: AAA/AUTHOR/TAC+: (924563050): user=pool_test
00:06:33: AAA/AUTHOR/TAC+: (924563050): send AV service=ppp
00:06:33: AAA/AUTHOR/TAC+: (924563050): send AV protocol=ip
00:06:33: TAC+: using previously set server 172.18.124.114 from group tacacs+
00:06:33: TAC+: Opening TCP/IP to 172.18.124.114/49 timeout=10
00:06:33: TAC+: Opened TCP/IP handle 0x61B3B620 to 172.18.124.114/49
using source 14.36.1.53
00:06:33: TAC+: Opened 172.18.124.114 index=1
00:06:33: TAC+: 172.18.124.114 (924563050) AUTHOR/START queued
00:06:33: As1 CCP: I CONFREQ [Not negotiated] id 4 len 10
00:06:33: As1 CCP: MS-PPC supported bits 0x00000001 (0x120600000001)
00:06:33: As1 LCP: O PROTREJ [Open] id 3 len 16 protocol CCP
(0x80FD0104000A120600000001)
00:06:33: As1 IPCP: I CONFREQ [Closed] id 5 len 40
00:06:33: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
00:06:33: As1 IPCP: Address 0.0.0.0 (0x030600000000)
00:06:33: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
00:06:33: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
00:06:33: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
00:06:33: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
00:06:33: TAC+: (924563050) AUTHOR/START processed
00:06:33: TAC+: (924563050): received author response status = PASS_ADD
00:06:33: TAC+: Closing TCP/IP 0x61B3B620 connection to 172.18.124.114/49
00:06:33: As1 AAA/AUTHOR (924563050): Post authorization status = PASS_ADD
00:06:33: As1 AAA/AUTHOR/FSM: We can start IPCP
00:06:33: As1 IPCP: O CONFREQ [Closed] id 1 len 10
00:06:33: As1 IPCP: Address 14.36.1.53 (0x03060E240135)
00:06:33: As1 IPCP: I CONFACK [REQsent] id 1 len 10
00:06:33: As1 IPCP: Address 14.36.1.53 (0x03060E240135)
00:06:34: %LINEPROTO-5-UPDOWN: Line protocol on Interface Async1,
changed state to up
00:06:34: As1 IPCP: I CONFREQ [ACKrcvd] id 5 len 40
00:06:34: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
00:06:34: As1 IPCP: Address 0.0.0.0 (0x030600000000)
00:06:34: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
00:06:34: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
00:06:34: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
00:06:34: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
00:06:34: As1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 0.0.0.0
00:06:34: As1 AAA/AUTHOR/IPCP: Says use pool pool1
00:06:34: AAA: parse name=Async1 idb type=10 tty=1
00:06:34: AAA: name=Async1 flags=0x11 type=4 shelf=0 slot=0 adapter=0
port=1 channel=0
00:06:34: AAA: parse name=Serial0:18 idb type=12 tty=-1
00:06:34: AAA: name=Serial0:18 flags=0x51 type=1 shelf=0 slot=0 adapter=0
port=0 channel=18
00:06:34: AAA/MEMORY: create_user (0x61451E1C) user='nas1-pools' ruser=''
port='Async1' rem_addr='9194722001/9194724101' authen_type=NONE service=NONE priv=1
00:06:34: As1 AAA/AUTHOR/POOL (2293413778): Port='Async1' list=''
service=NET
00:06:34: AAA/AUTHOR/POOL: As1 (2293413778) user='nas1-pools'
00:06:34: As1 AAA/AUTHOR/POOL (2293413778): send AV service=ppp
00:06:34: As1 AAA/AUTHOR/POOL (2293413778): send AV protocol=ip
00:06:34: Async1 AAA/AUTHOR/POOL (2293413778): found list "default"
00:06:34: As1 AAA/AUTHOR/POOL (2293413778): Method=tacacs+ (tacacs+)
00:06:34: AAA/AUTHOR/TAC+: (2293413778): user=nas1-pools
00:06:34: AAA/AUTHOR/TAC+: (2293413778): send AV service=ppp
00:06:34: AAA/AUTHOR/TAC+: (2293413778): send AV protocol=ip
```

```

00:06:34: TAC+: Using default tacacs server-group "tacacs+" list.
00:06:34: TAC+: Opening TCP/IP to 172.18.124.114/49 timeout=10
00:06:34: TAC+: Opened TCP/IP handle 0x61B3BA9C to 172.18.124.114/49
using source 14.36.1.53
00:06:34: TAC+: 172.18.124.114 (2293413778) AUTHOR/START queued
00:06:34: TAC+: (2293413778) AUTHOR/START processed
00:06:34: TAC+: (2293413778): received author response status = PASS_ADD
00:06:34: TAC+: Closing TCP/IP 0x61B3BA9C connection to 172.18.124.114/49
00:06:34: AAA/AUTHOR (2293413778): Post authorization status = PASS_ADD
00:06:34: As1 AAA/AUTHOR/CONFIG: Processing AV service=ppp
00:06:34: As1 AAA/AUTHOR/CONFIG: Processing AV protocol=ip
00:06:34: As1 AAA/AUTHOR/CONFIG: Processing AV pool-def#1=pool1 1.2.3.4 1.2.3.5
00:06:34: AAA/MEMORY: free_user (0x61451E1C) user='nas1-pools' ruser=''
port='Async1' rem_addr='9194722001/9194724101' authen_type=NONE service=NONE priv=1
00:06:34: As1 AAA/AUTHOR/IPCP: Pool returned 1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Authorization succeeded
00:06:34: As1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.2.3.4
00:06:34: As1 IPCP: O CONFREJ [ACKrcvd] id 5 len 34
00:06:34: As1 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01)
00:06:34: As1 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
00:06:34: As1 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
00:06:34: As1 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
00:06:34: As1 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
00:06:34: As1 IPCP: I CONFREQ [ACKrcvd] id 6 len 10
00:06:34: As1 IPCP: Address 0.0.0.0 (0x030600000000)
00:06:34: As1 AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Authorization succeeded
00:06:34: As1 AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want 1.2.3.4
00:06:34: As1 IPCP: O CONFNAK [ACKrcvd] id 6 len 10
00:06:34: As1 IPCP: Address 1.2.3.4 (0x030601020304)
00:06:34: As1 IPCP: I CONFREQ [ACKrcvd] id 7 len 10
00:06:34: As1 IPCP: Address 1.2.3.4 (0x030601020304)
00:06:34: As1 AAA/AUTHOR/IPCP: Start. Her address 1.2.3.4, we want 1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Request 1.2.3.4 from pool pool1
00:06:34: As1 AAA/AUTHOR/IPCP: Pool grants 1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV service=ppp
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr-pool=pool1
00:06:34: As1 AAA/AUTHOR/IPCP: Processing AV addr*1.2.3.4
00:06:34: As1 AAA/AUTHOR/IPCP: Authorization succeeded
00:06:34: As1 AAA/AUTHOR/IPCP: Done. Her address 1.2.3.4, we want 1.2.3.4
00:06:34: As1 IPCP: O CONFACK [ACKrcvd] id 7 len 10
00:06:34: As1 IPCP: Address 1.2.3.4 (0x030601020304)
00:06:34: As1 IPCP: State is Open
00:06:34: As1 IPCP: Install route to 1.2.3.4

```

```
as5300#show caller ip
```

Line	User	IP Address	Local Number	Remote Number	<->
As1	pool_test	1.2.3.4	9194724101	9194722001	

```
as5300#show ip local pool
```

Pool	Begin	End	Free	In use
pool1	1.2.3.4	1.2.3.5	1	1 (dynamic)

[관련 정보](#)

- [Cisco Secure UNIX 지원 페이지](#)
- [RADIUS 지원 페이지](#)
- [RFC\(Request for Comments\)](#)
- [TACACS+ 지원 페이지](#)
- [기술 지원 및 문서 - Cisco Systems](#)