配置 Cisco Secure VPN Client 1.1 for Windows 到 IOS 的连接，以使用本地扩展验证

目录

简介

本文档显示了VPN客户端的本地扩展身份验证(Xauth)的示例配置。此功能通过提示用户输入用户名和密码，为在其PC上安装了Cisco Secure VPN Client 1.1的用户提供身份验证。有关使用Cisco VPN Client 3.x的相同配置的信息，请参阅使用本地扩展身份验证将Cisco VPN Client 3.x配置为Windows到IOS（推荐）。

先决条件

要求

Xauth也可以配置为TACACS+和RADIUS与VPN客户端。

Xauth 仅包括*身份验证，不包括授权（用户可以在建立连接之后离开）。 未实现记帐（用户已离开）*。

在实施Xauth之前，配置必须在不使用Xauth的情况下运行。本文档中的示例演示了除Xauth外的模式配置（模式配置）和网络地址转换(NAT)，但假设在添加Xauth命令之前存在IPsec连接。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- VPN 客户端版本 1.1（或更高版本）
- Cisco IOS®软件版本12.1.2.2.T、12.1.2.2.P（或更高版本）
- 使用运行c3660-jo3s56i-mz.121-2.3.T的Cisco 3660测试了本地身份验证

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

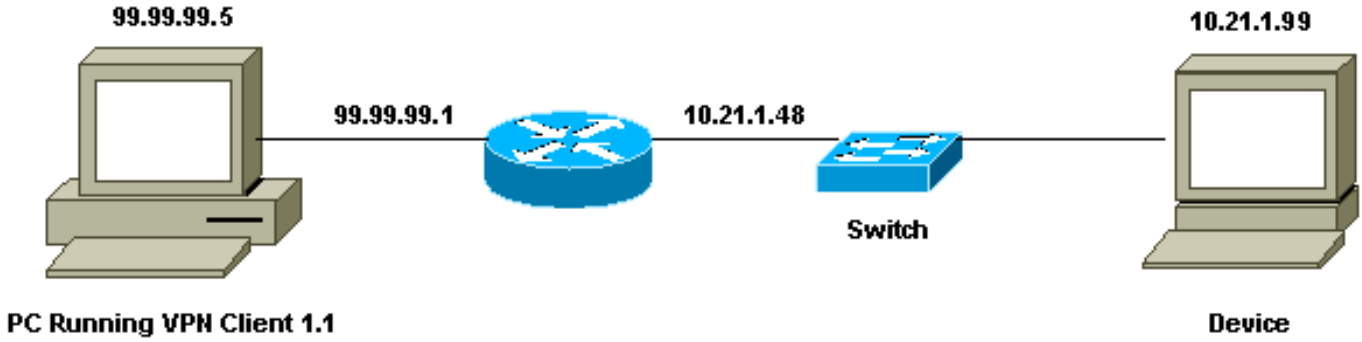
配置

本部分提供有关如何配置本文档所述功能的信息。

注意：使用命令查找工具(仅限注册客户)可获取有关本节中使用的命令的详细信息。

网络图

本文档使用此网络设置。



VPN Client 1.1 安装

```
Network Security policy:
 1- Myconn
         My Identity = ip address
                 Connection security: Secure
                 Remote Party Identity and addressing
                         ID Type: IP subnet
                         10.21.1.0 (range of inside network)
                         Port all Protocol all

                 Connect using secure tunnel
                         ID Type: IP address
                         99.99.99.1
                         Pre-shared key = cisco1234

         Authentication (Phase 1)
         Proposal 1
                 Authentication method: pre-shared key
                 Encryp Alg: DES
                 Hash Alg: MD5
                 SA life: Unspecified
```

```
                Key Group: DH 1

        Key exchange (Phase 2)
        Proposal 1
                Encapsulation ESP
                Encrypt Alg: DES
                Hash Alg: MD5
                Encap: tunnel
                SA life: Unspecified
                no AH

 2- Other Connections
             Connection security: Non-secure
             Local Network Interface
                 Name: Any
                 IP Addr: Any
                 Port: All
```

在路由器上启用Xauth后，当用户尝试连接到路由器内的设备(此处执行ping -t #.#.#.#)时，将出现一个灰色屏幕：

```
User Authentication for 3660
Username:
Password:
```

配置

本地扩展验证的路由器配置

```
Current configuration:
!
version 12.1
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname goss-e4-3660
!
!--- Required for Xauth. aaa new-model
AAA authentication login default line
!--- Defines the list for Xauth. AAA authentication
login xauth_list local
!
username john password 0 doe
!
memory-size iomem 30
ip subnet-zero
!
ip audit notify log
ip audit po max-events 100
cns event-service server
!
!--- Defines IKE policy. Default encryption is DES. !---
If you want to have 3DES encryption for IKE and your
image is !--- a 3DES image, put "encryption 3des" under
the ISAKMP !--- policy configuration mode. !--- This
must match the parameters in the "Authentication (Phase
1)" proposal !--- on the VPN Client. crypto isakmp
policy 10
hash md5
authentication pre-share
!--- Wildcard pre-shared key for all the clients. crypto
```

```
isakmp key cisco1234 address 0.0.0.0 0.0.0.0
!--- Address pool for client-mode configuration
addresses. crypto isakmp client configuration address-
pool local ourpool

!--- Define the IPsec transform set. !--- These
parameters must match Phase 2 proposal parameters !---
configured on the client. !--- If you have 3DES image
and would like to encrypt your data using 3DES, !--- the
line appears as follows: !--- crypto ipsec transform-set
ts esp-3des esp-md5-hmac. crypto ipsec transform-set
mypolicy esp-des esp-md5-hmac
!--- Create a dynamic crypto map that specifies the
transform set to use. crypto dynamic-map dyna 10
set transform-set mypolicy
!
!--- Enable the Xauth with the specified list. crypto
map test client authentication list xauth_list
!--- Enable ModeConfig initiation and response. crypto
map test client configuration address initiate
crypto map test client configuration address respond
!--- Create regular crypto map based on the dynamic
crypto map. crypto map test 5 ipsec-isakmp dynamic dyna
!
interface FastEthernet0/0
ip address 10.21.1.48 255.255.255.0
ip nat inside
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 99.99.99.1 255.255.255.0
ip Nat outside
no ip route-cache
no ip mroute-cache
duplex auto
speed 10
!--- Apply the crypto map to the public interface of the
router. crypto map test
!
interface Ethernet2/0
no ip address
shutdown
!
interface Ethernet2/1
no ip address
shutdown
!
!--- Define the pool of addresses for ModeConfig (see
reference !--- earlier in this output). ip local pool
ourpool 10.2.1.1 10.2.1.254
ip Nat pool outsidepool 99.99.99.50 99.99.99.60 netmask
255.255.255.0
ip Nat inside source route-map nonat pool outsidepool
ip classless
ip route 0.0.0.0 0.0.0.0 10.21.1.1
no ip http server
!
access-list 101 deny ip 10.21.1.0 0.0.0.255 10.2.1.0
0.0.0.255
access-list 101 permit ip 10.21.1.0 0.0.0.255 any
route-map nonat permit 10
match ip address 101
!
```

```
line con 0
transport input none
line aux 0
line vty 0 4
password ww
!
end
```

验证

当前没有可用于此配置的验证过程。

故障排除

本部分提供的信息可用于对配置进行故障排除。

故障排除命令

命令输出解释程序（仅限注册用户）(OIT) 支持某些 show 命令。使用 OIT 可查看对 show 命令输出的分析。

注意：在使用debug命令之前，请参阅有关Debug命令的重要信息。

- **debug aaa authentication — 显示有关 AAA/TACACS+ 身份验证的信息。**
- **debug crypto isakmp — 显示关于 IKE 事件的消息。**
- **debug crypto ipsec — 显示 IPSec 事件。**
- **debug crypto key-exchange - 显示数字签字标准 (DSS) 公钥交换消息。**
- **clear crypto isakmp - 指定要清除的连接。**
- **clear crypto sa - 删除 IPsec 安全连接。**

调试输出示例

```
goss-e4-3660#show debug
General OS:
  AAA Authentication debugging is on
Cryptographic Subsystem:
  Crypto ISAKMP debugging is on
  Crypto Engine debugging is on
  Crypto IPSEC debugging is on
goss-e4-3660#term mon
goss-e4-3660#
01:37:58: ISAKMP (0:0): received packet from 99.99.99.5
    (N) NEW SA
01:37:58: ISAKMP: local port 500, remote port 500
01:37:58: ISAKMP (0:1): Setting client config settings
    627D1E3C
01:37:58: ISAKMP (0:1): (Re)Setting client xauth list
    xauth_list and state
01:37:58: ISAKMP: Created a peer node for 99.99.99.5
01:37:58: ISAKMP: Locking struct 627D1E3C from
    crypto_ikmp_config_initialize_sa
01:37:58: ISAKMP (0:1): processing SA payload. message ID = 0
!--- Pre-shared key matched. 01:37:58: ISAKMP (0:1): found peer pre-shared key
```

```
    matching 99.99.99.5
01:37:58: ISAKMP (0:1): Checking ISAKMP transform 1
    against priority 10 policy
01:37:58: ISAKMP:      encryption DES-CBC
01:37:58: ISAKMP:      hash MD5
01:37:58: ISAKMP:      default group 1
01:37:58: ISAKMP:      auth pre-share
!--- ISAKMP policy proposed by VPN Client matched the configured ISAKMP policy. 01:37:58: ISAKMP
(0:1): atts are acceptable. Next payload is 0
01:37:58: CryptoEngine0: generate alg parameter
01:37:58: CRYPTO_ENGINE: Dh phase 1 status: 0
01:37:58: CRYPTO_ENGINE: DH phase 1 status: 0
01:37:58: ISAKMP (0:1): SA is doing pre-shared key authentication
    using id type ID_IPV4_ADDR
01:37:58: ISAKMP (0:1): sending packet to 99.99.99.5 (R) MM_SA_SETUP
01:37:59: ISAKMP (0:1): received packet from 99.99.99.5
    (R) MM_SA_SETUP
01:37:59: ISAKMP (0:1): processing KE payload. Message ID = 0
01:37:59: CryptoEngine0: generate alg parameter
01:37:59: ISAKMP (0:1): processing NONCE payload. Message ID = 0
01:37:59: ISAKMP (0:1): found peer pre-shared key matching 99.99.99.5
01:37:59: CryptoEngine0: create ISAKMP SKEYID for conn id 1
01:37:59: ISAKMP (0:1): SKEYID state generated
01:37:59: ISAKMP (0:1): processing vendor id payload
01:37:59: ISAKMP (0:1): processing vendor id payload
01:37:59: ISAKMP (0:1): sending packet to 99.99.99.5 (R) MM_KEY_EXCH
01:37:59: ISAKMP (0:1): received packet from 99.99.99.5
    (R) MM_KEY_EXCH
01:37:59: ISAKMP (0:1): processing ID payload. Message ID = 0
01:37:59: ISAKMP (0:1): processing HASH payload. Message ID = 0
01:37:59: CryptoEngine0: generate hmac context for conn id 1
01:37:59: ISAKMP (0:1): processing NOTIFY INITIAL_CONTACT protocol 1
        spi 0, message ID = 0
01:37:59: ISAKMP (0:1): SA has been authenticated with 99.99.99.5
01:37:59: ISAKMP (1): ID payload
        next-payload : 8
        type         : 1
        protocol     : 17
        port         : 500
        length       : 8
01:37:59: ISAKMP (1): Total payload length: 12
01:37:59: CryptoEngine0: generate hmac context for conn id 1
01:37:59: CryptoEngine0: clear DH number for conn id 1
!--- Starting Xauth. 01:37:59: ISAKMP (0:1): sending packet to 99.99.99.5 (R) CONF_XAUTH
01:38:00: ISAKMP (0:1): received packet from 99.99.99.5
    (R) CONF_XAUTH
01:38:00: ISAKMP (0:1): (Re)Setting client xauth list
    xauth_list and state
01:38:00: ISAKMP (0:1): Need XAUTH
01:38:00: AAA: parse name=ISAKMP idb type=-1 tty=-1
01:38:00: AAA/MEMORY: create_user (0x627D27D0) user='' ruser=''
    port='ISAKMP' rem_addr='99.99.99.5' authen_type=ASCII
    service=LOGIN priv=0
01:38:00: AAA/AUTHEN/START (324819201): port='ISAKMP'
    list='xauth_list' action=LOGIN service=LOGIN
01:38:00: AAA/AUTHEN/START (324819201): found list xauth_list
01:38:00: AAA/AUTHEN/START (324819201): Method=LOCAL
01:38:00: AAA/AUTHEN (324819201): status = GETUSER
01:38:00: ISAKMP: got callback 1
01:38:00: ISAKMP/xauth: request attribute XAUTH_TYPE
01:38:00: ISAKMP/xauth: request attribute XAUTH_MESSAGE
01:38:00: ISAKMP/xauth: request attribute XAUTH_USER_NAME
01:38:00: ISAKMP/xauth: request attribute XAUTH_USER_PASSWORD
01:38:00: CryptoEngine0: generate hmac context for conn id 1
```

```
01:38:00: ISAKMP (0:1): initiating peer config to 99.99.99.5.
    ID = 944484565
01:38:00: ISAKMP (0:1): sending packet to 99.99.99.5 (R) CONF_XAUTH
01:38:02: IPSEC(decapsulate): error in decapsulation
    crypto_ipsec_sa_exists
!--- The user has delayed the input of the username/password. 01:38:05: ISAKMP (0:1):
retransmitting phase 2 CONF_XAUTH
    944484565 ...
01:38:05: ISAKMP (0:1): incrementing error counter on sa:
    retransmit phase 2
01:38:05: ISAKMP (0:1): incrementing error counter on sa:
    retransmit phase 2
01:38:05: ISAKMP (0:1): retransmitting phase 2 944484565 CONF_XAUTH
01:38:05: ISAKMP (0:1): sending packet to 99.99.99.5 (R) CONF_XAUTH
01:38:08: ISAKMP (0:1): received packet from 99.99.99.5
    (R) CONF_XAUTH
01:38:08: ISAKMP (0:1): processing transaction payload
    from 99.99.99.5. Message ID = 944484565
01:38:08: CryptoEngine0: generate hmac context for conn id 1
01:38:08: ISAKMP: Config payload REPLY
01:38:08: ISAKMP/xauth: reply attribute XAUTH_TYPE
01:38:08: ISAKMP/xauth: reply attribute XAUTH_USER_NAME
01:38:08: ISAKMP/xauth: reply attribute XAUTH_USER_PASSWORD
01:38:08: AAA/AUTHEN/CONT (324819201): continue_login
    (user='(undef)')
01:38:08: AAA/AUTHEN (324819201): status = GETUSER
01:38:08: AAA/AUTHEN/CONT (324819201): Method=LOCAL
01:38:08: AAA/AUTHEN (324819201): status = GETPASS
01:38:08: AAA/AUTHEN/CONT (324819201): continue_login
    (user='john')
01:38:08: AAA/AUTHEN (324819201): status = GETPASS
01:38:08: AAA/AUTHEN/CONT (324819201): Method=LOCAL
01:38:08: AAA/AUTHEN (324819201): status = PASS
01:38:08: ISAKMP: got callback 1
01:38:08: CryptoEngine0: generate hmac context for conn id 1
01:38:08: ISAKMP (0:1): initiating peer config to 99.99.99.5.
    ID = 944484565
01:38:08: ISAKMP (0:1): sending packet to 99.99.99.5 (R) CONF_XAUTH
01:38:08: ISAKMP (0:1): received packet from 99.99.99.5
    (R) CONF_XAUTH
01:38:08: ISAKMP (0:1): processing transaction payload from 99.99.99.5.
    Message ID = 944484565
01:38:08: CryptoEngine0: generate hmac context for conn id 1
01:38:08: ISAKMP: Config payload ACK
!--- Xauth finished. 01:38:08: ISAKMP (0:1): deleting node 944484565 error FALSE
    reason "done with transaction"
01:38:08: ISAKMP (0:1): allocating address 10.2.1.2
01:38:08: CryptoEngine0: generate hmac context for conn id 1
01:38:08: ISAKMP (0:1): initiating peer config to 99.99.99.5.
    ID = -2139076758
01:38:08: ISAKMP (0:1): sending packet to 99.99.99.5 (R) CONF_ADDR
01:38:08: ISAKMP (0:1): received packet from 99.99.99.5 (R) CONF_ADDR
01:38:08: ISAKMP (0:1): processing transaction payload
    from 99.99.99.5. Message ID = -2139076758
01:38:08: CryptoEngine0: generate hmac context for conn id 1
01:38:08: ISAKMP: Config payload ACK
01:38:08: ISAKMP (0:1): peer accepted the address!
01:38:08: ISAKMP (0:1): adding static route for 10.2.1.2
01:38:08: ISAKMP (0:1): installing route 10.2.1.2 255.255.255.255
    99.99.99.5
01:38:08: ISAKMP (0:1): deleting node -2139076758 error FALSE
    reason "done with transaction"
01:38:08: ISAKMP (0:1): Delaying response to QM request.
01:38:09: ISAKMP (0:1): received packet from 99.99.99.5 (R) QM_IDLE
```

```
01:38:09: ISAKMP (0:1): (Re)Setting client xauth list
    xauth_list and state
01:38:09: CryptoEngine0: generate hmac context for conn id 1
01:38:09: ISAKMP (0:1): processing HASH payload.
    Message ID = -1138778119
01:38:09: ISAKMP (0:1): processing SA payload.
    Message ID = -1138778119
01:38:09: ISAKMP (0:1): Checking IPSec proposal 1
01:38:09: ISAKMP: transform 1, ESP_DES
01:38:09: ISAKMP:   attributes in transform:
01:38:09: ISAKMP:      authenticator is HMAC-MD5
01:38:09: ISAKMP:      encaps is 1
01:38:09: validate proposal 0
 !--- Proposed Phase 2 transform set matched configured IPsec transform set. 01:38:09: ISAKMP
(0:1): atts are acceptable.
01:38:09: IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) dest= 99.99.99.1, src= 99.99.99.5,
    dest_proxy= 10.21.1.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.2.1.2/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= ESP-Des esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4
01:38:09: validate proposal request 0
01:38:09: ISAKMP (0:1): processing NONCE payload.
    Message ID = -1138778119
01:38:09: ISAKMP (0:1): processing ID payload.
    Message ID = -1138778119
01:38:09: ISAKMP (1): ID_IPV4_ADDR src 10.2.1.2 prot 0 port 0
01:38:09: ISAKMP (0:1): processing ID payload.
    Message ID = -1138778119
01:38:09: ISAKMP (1): ID_IPV4_ADDR_SUBNET dst 10.21.1.0/255.255.255.0
    prot 0 port 0
01:38:09: ISAKMP (0:1): asking for 1 spis from ipsec
01:38:09: IPSEC(key_engine): got a queue event...
01:38:09: IPSEC(spi_response): getting spi 3339398037 for SA
        from 99.99.99.5      to 99.99.99.1      for prot 3
01:38:09: ISAKMP: received ke message (2/1)
01:38:10: CryptoEngine0: generate hmac context for conn id 1
01:38:10: ISAKMP (0:1): sending packet to 99.99.99.5 (R) QM_IDLE
01:38:10: ISAKMP (0:1): received packet from 99.99.99.5
    (R) QM_IDLE
01:38:10: CryptoEngine0: generate hmac context for conn id 1
01:38:10: ipsec allocate flow 0
01:38:10: ipsec allocate flow 0
01:38:10: ISAKMP (0:1): Creating IPSec SAs
01:38:10:         inbound SA from 99.99.99.5 to 99.99.99.1
        (proxy 10.2.1.2 to 10.21.1.0)
01:38:10:         has spi 0xC70B2B95 and conn_id 2000
    and flags 4
01:38:10:         outbound SA from 99.99.99.1 to 99.99.99.5
    (proxy 10.21.1.0 to 10.2.1.2)
01:38:10:         has spi -1679939467 and conn_id 2001
    and flags 4
01:38:10: ISAKMP (0:1): deleting node -1769610309 error FALSE
    reason "saved qm no longer needed"
01:38:10: ISAKMP (0:1): deleting node -1138778119 error FALSE
    reason "quick mode done (await()"
01:38:10: IPSEC(key_engine): got a queue event...
 !--- IPsec SAs created. 01:38:10: IPSEC(initialize_sas): ,
  (key Eng. msg.) dest= 99.99.99.1, src= 99.99.99.5,
    dest_proxy= 10.21.1.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.2.1.2/0.0.0.0/0/0 (type=1),
    protocol= ESP, transform= ESP-Des esp-md5-hmac ,
    lifedur= 0s and 0kb,
```

```
    spi= 0xC70B2B95(3339398037), conn_id= 2000,
    keysize= 0, flags= 0x4
01:38:10: IPSEC(initialize_sas): ,
  (key Eng. msg.) src= 99.99.99.1, dest= 99.99.99.5,
    src_proxy= 10.21.1.0/255.255.255.0/0/0 (type=4),
    dest_proxy= 10.2.1.2/0.0.0.0/0/0 (type=1),
    protocol= ESP, transform= ESP-Des esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x9BDE2875(2615027829), conn_id= 2001,
    keysize= 0, flags= 0x4
01:38:10: IPSEC(create_sa): sa created,
  (sa) sa_dest= 99.99.99.1, sa_prot= 50,
    sa_spi= 0xC70B2B95(3339398037),
    sa_trans= ESP-Des esp-md5-hmac , sa_conn_id= 2000
01:38:10: IPSEC(create_sa): sa created,
  (sa) sa_dest= 99.99.99.5, sa_prot= 50,
    sa_spi= 0x9BDE2875(2615027829),
    sa_trans= ESP-Des esp-md5-hmac , sa_conn_id= 2001
01:38:10: ISAKMP: received ke message (4/1)
01:38:10: ISAKMP: Locking struct 627D1E3C for IPSEC
```

相关信息

- 思科安全VPN客户端的EOS和EOL
- IPsec 协商/IKE 协议
- 技术支持和文档 - Cisco Systems