配置使用RADIUS用户认证的在Cisco IOS路由器和Cisco VPN Client 4.x for Windows 之间的IPSec

目录

简介

本文档演示如何针对用户身份验证使用远程身份验证拨入用户服务 (RADIUS) 配置路由器与 Cisco VPN 客户端 4.x 之间的连接。Cisco IOS® 软件版本 12.2(8)T 和更高版本支持 Cisco VPN 客户端 4.x 的连接。VPN 客户端 3.x 和 VPN 客户端 4.x 使用 Diffie Hellman (DH) 第 2 组策略。**isakmp policy # group 2 命令使 VPN 客户端能够进行连接。**

本文档显示RADIUS服务器上的身份验证以及路由器本地分配的授权(例如分配Windows Internet命名服务(WINS)和域命名服务(DNS))。如果对通过 RADIUS 服务器进行身份验证和授权感兴趣，请参阅使用 RADIUS 配置 Cisco IOS 路由器与 Cisco VPN 客户端 4.x for Windows 之间的 IPSec。

注意：IPSec VPN记帐现已可用。有关更多信息和配置示例，请参阅 IPSec VPN 记账。

有关采用 TACACS+ 协议进行外部用户身份验证的方案的详细信息，请参阅 IOS 路由器与 Cisco VPN 客户端 4.x for Windows 之间采用 TACACS+ 用户身份验证的 IPSec 隧道的配置示例。

有关在 Cisco IOS 路由器中进行本地用户身份验证的方案的详细信息，请参阅配置 Cisco VPN 客户

端 3.x for Windows 到采用本地扩展身份验证 IOS 的连接。

有关如何使用 Microsoft Windows 2003 Internet 身份验证服务 (IAS) RADIUS 服务器设置 Cisco VPN 客户端 (4.x for Windows) 与 PIX 500 Series Security Appliance 7.x 之间的远程访问 VPN 连接的信息，请参阅使用 Microsoft Windows 2003 IAS RADIUS 身份验证的 PIX/ASA 7.x 与 Cisco VPN 客户端 4.x for Windows 的配置示例。

有关如何使用通配符、模式配置、**sysopt connection permit-ipsec 命令和扩展身份验证 (Xauth) 将 VPN 客户端连接到 PIX 防火墙的信息，请参阅** Ipsec - PIX 到 VPN 客户端的通配符、预共享、模式配置及扩展身份验证。

有关如何使用 RADIUS 进行用户身份验证和记账在 Cisco VPN 3000 集中器和 Cisco VPN 客户端 4.x for Windows 之间建立 IPsec 隧道的信息，请参阅 VPN 3000 集中器与 VPN 客户端 4.x for Windows 之间使用 RADIUS 进行用户身份验证和记账的 IPsec 的配置示例。

先决条件

要求

尝试进行此配置之前，请确保满足以下要求：

- 要分配给 IPSec 的地址的池
- 称为“3000clients”的组，口令为“cisco123”
- RADIUS 服务器上的用户身份验证

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 运行 Cisco IOS 软件版本 12.2(15)T2 的 2621XM 路由器
- CiscoSecure ACS for Windows 2000 4.2 版（所有 RADIUS 服务器均应适用）
- Cisco VPN 客户端 for Windows 4.8 版（所有 VPN 客户端 4.x 和更高版本均应适用）

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。

路由器上 **show version 命令的输出如下：**

```
vpn2621#show version
Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2,  RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 01-May-03 10:39 by nmasa
Image text-base: 0x80008098, data-base: 0x81BBB0BC

ROM: System Bootstrap, Version 12.2(7r) [cmong 7r], RELEASE SOFTWARE (fc1)

vpn2621 uptime is 1 hour, 34 minutes
System returned to ROM by reload
System image file is "flash:c2600-ik9s-mz.122-15.T2.bin"
```

```
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

cisco 2621XM (MPC860P) processor (revision 0x100) with 125952K/5120K bytes of memory.
Processor board ID JAD064503FK (64188517)
M860 processor: part number 5, mask 2
Bridging software.
X.25 software, Version 3.0.0.
2 FastEthernet/IEEE 802.3 interface(s)
2 Serial(sync/async) network interface(s)
1 terminal line(s)
1 Virtual Private Network (VPN) Module(s)
1 cisco content engine(s)
32K bytes of non-volatile configuration memory.
32768K bytes of processor board System flash (Read/Write)

Configuration register is 0x2102
```

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

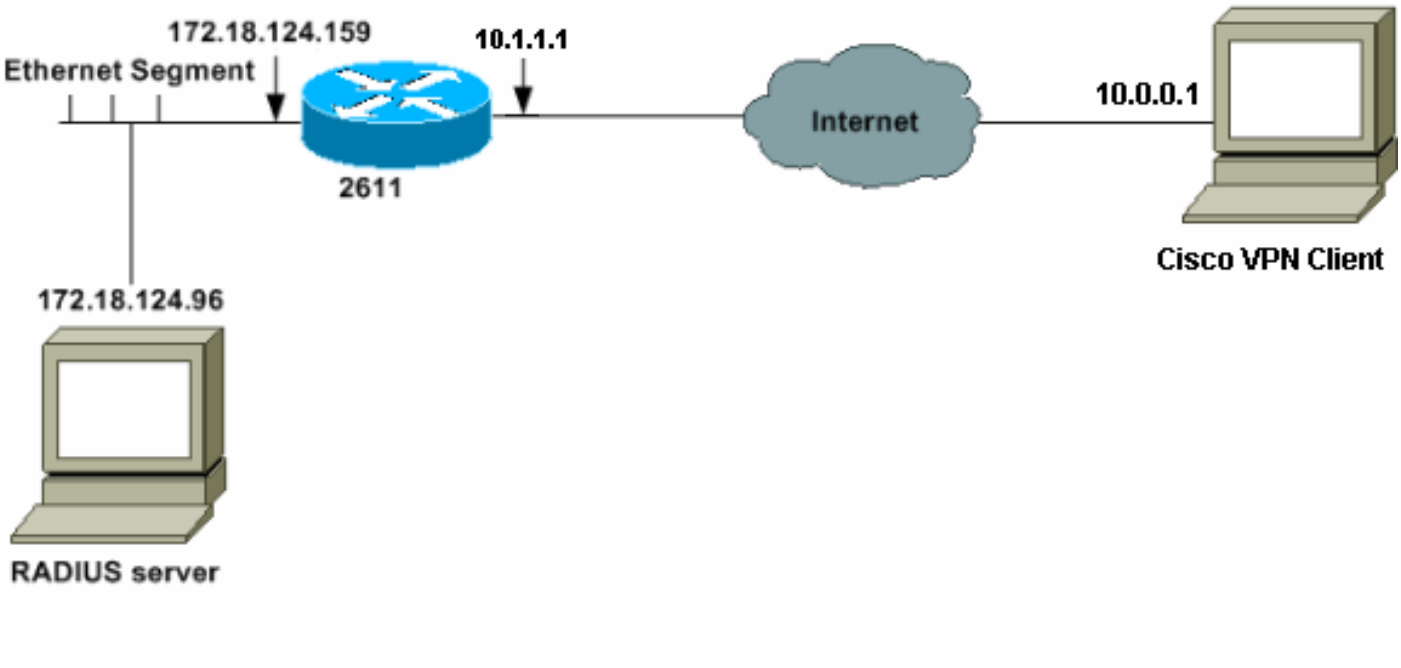
配置

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)可查找有关本文档中使用的命令的详细信息。

网络图

本文档使用以下网络设置：



配置 2621XM 路由器

2621XM 路由器

```
!--- Enable authentication, authorization and accounting
(AAA) !--- for user authentication and group
authorization. aaa new-model
!
!--- In order to enable extended authentication (Xauth)
for user authentication, !--- enable the aaa
authentication commands. !--- "Group radius local"
specifies RADIUS user authentication !--- to be used by
default and to use local database if RADIUS server is
not reachable.

aaa authentication login userauthen group radius local


!--- In order to enable group authorization, !--- enable
the aaa authorization commands.

aaa authorization network groupauthor local
!--- Create an Internet Security Association and !---
Key Management Protocol (ISAKMP) policy for Phase 1
negotiations. crypto isakmp policy 3
encr 3des
authentication pre-share
group 2
!

!--- Create a group that will be used to specify the !--
- Windows Internet Naming Service (WINS) and Domain
Naming Service (DNS) server !--- addresses to the
client, along with the pre-shared key for
authentication. crypto isakmp client configuration group
3000client
key cisco123
dns 10.1.1.10
wins 10.1.1.20
```

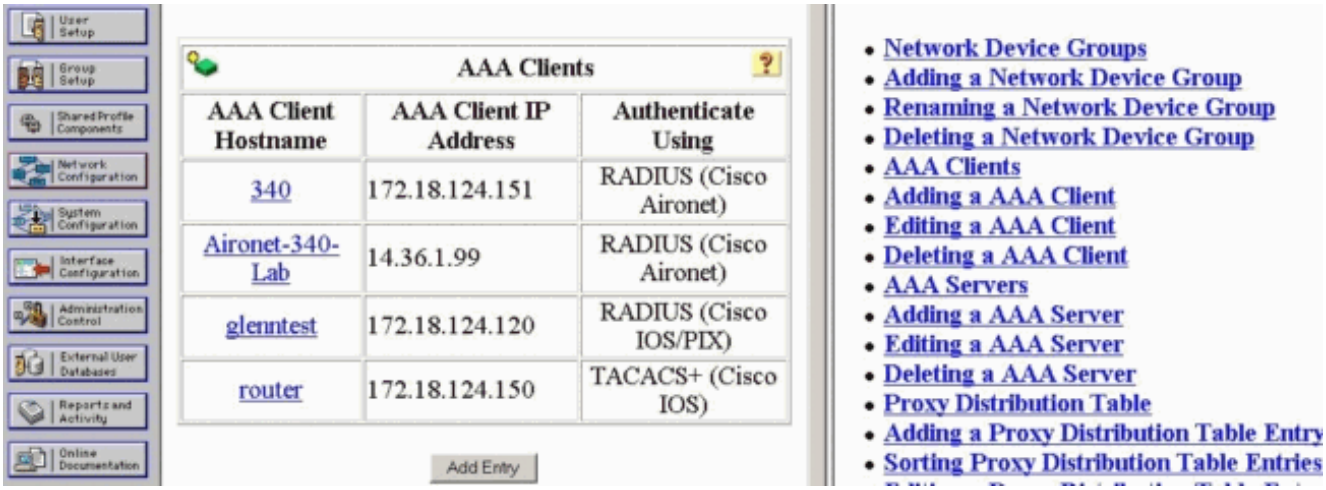
```
domain cisco.com
pool ippool
!
!--- Create the Phase 2 policy for actual data
encryption. crypto ipsec transform-set myset esp-3des
esp-sha-hmac
!

!--- Create a dynamic map and !--- apply the transform
set that was created. crypto dynamic-map dynmap 10
set transform-set myset
!
!--- Create the actual crypto map, !--- and apply the
AAA lists that were created earlier. crypto map
clientmap client authentication list userauthen
crypto map clientmap isakmp authorization list
groupauthor
crypto map clientmap client configuration address
respond
crypto map clientmap 10 ipsec-isakmp dynamic dynmap
!--- Apply the crypto map on the outside interface.
interface Ethernet0/0
ip address 10.1.1.1 255.255.255.0
 half-duplex
 crypto map clientmap
interface Ethernet0/1

ip address 172.18.124.159 255.255.255.0
 half-duplex
!

!--- Create a pool of addresses to be assigned to the
VPN Clients. ip local pool ippool  10.16.20.1
10.16.20.200
ip classless
ip route 0.0.0.0 0.0.0.0 10.1.1.2
ip http server
ip pim bidir-enable
!
!
!
!--- Specify the IP address of the RADIUS server, !---
along with the RADIUS shared secret key. radius-server
host 172.18.124.96 auth-port 1645 acct-port 1646 key
cisco123
radius-server retransmit 3
```

RADIUS 服务器配置

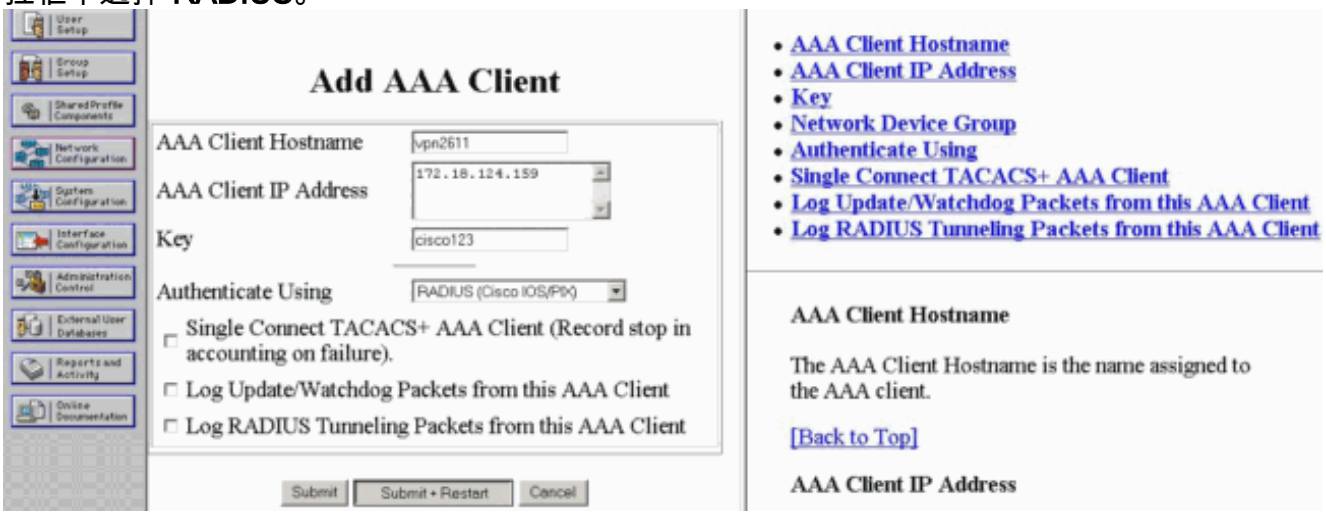
配置 RADIUS 服务器以进行用户身份验证

要配置 RADIUS 服务器，请完成以下步骤：

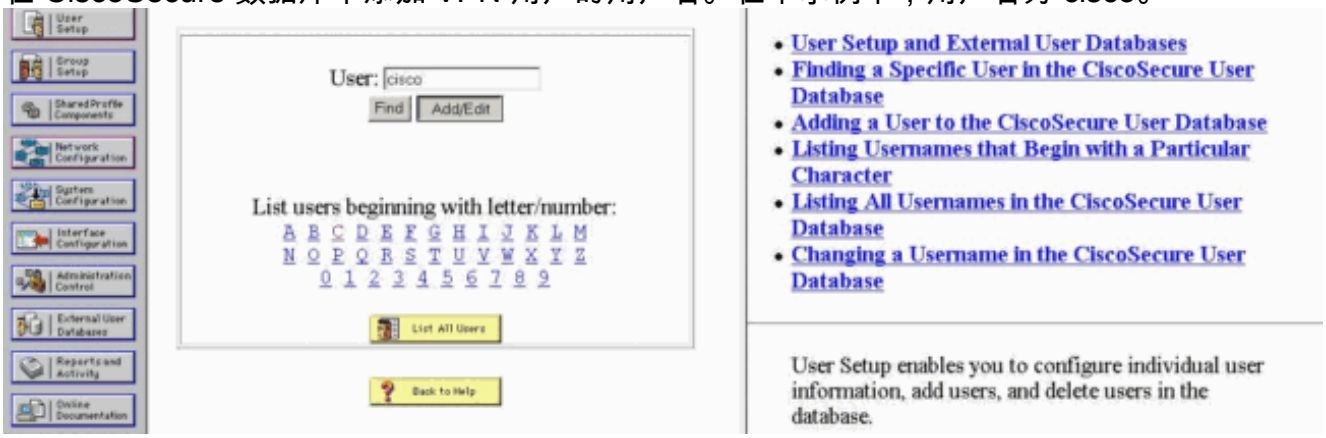
1. 在 RADIUS 服务器数据库中为路由器添加一个条目。



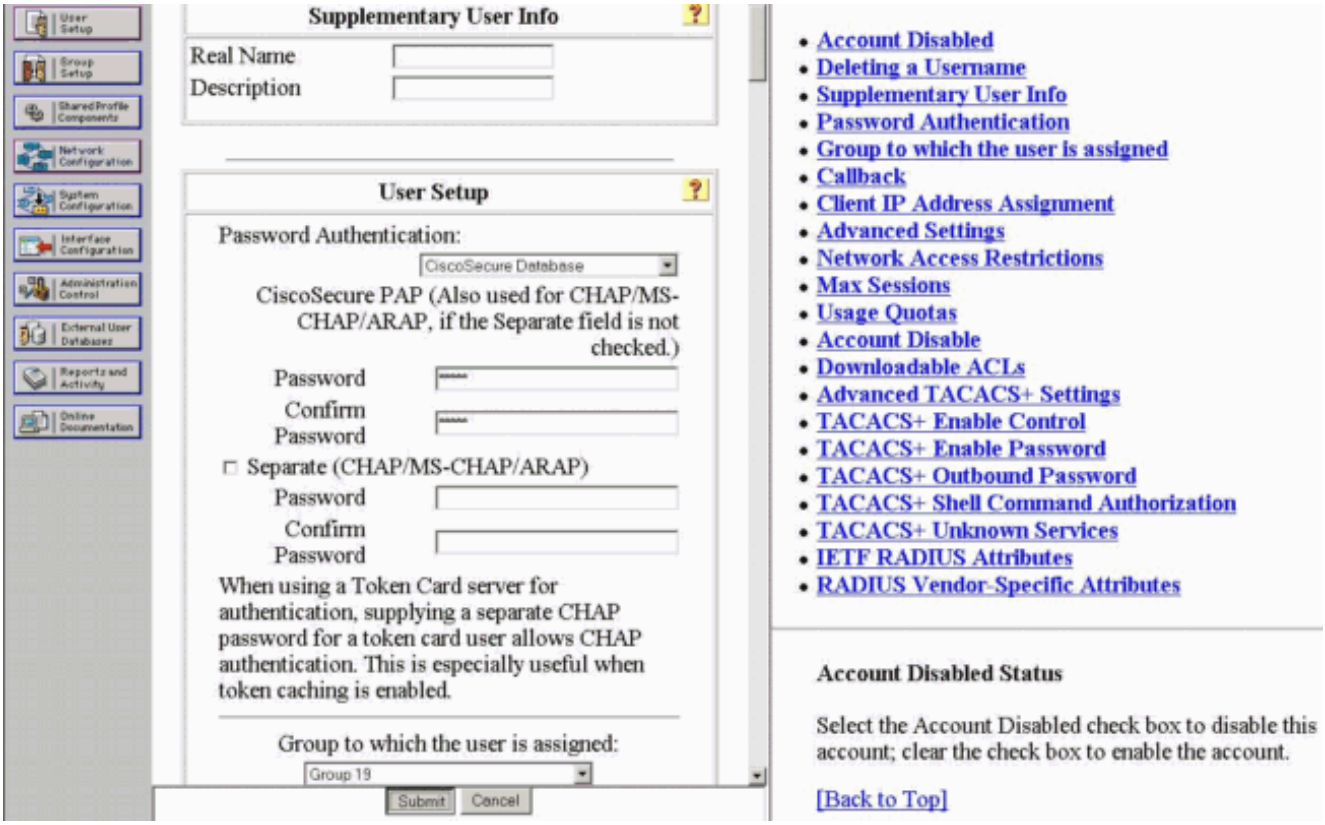
2. 指定路由器的 IP 地址“172.18.124.159”，以及共享密钥“cisco123”。 在“Authenticate Using”下拉框中选择 **RADIUS**。



3. 在 CiscoSecure 数据库中添加 VPN 用户的用户名。在本示例中，用户名为 cisco。



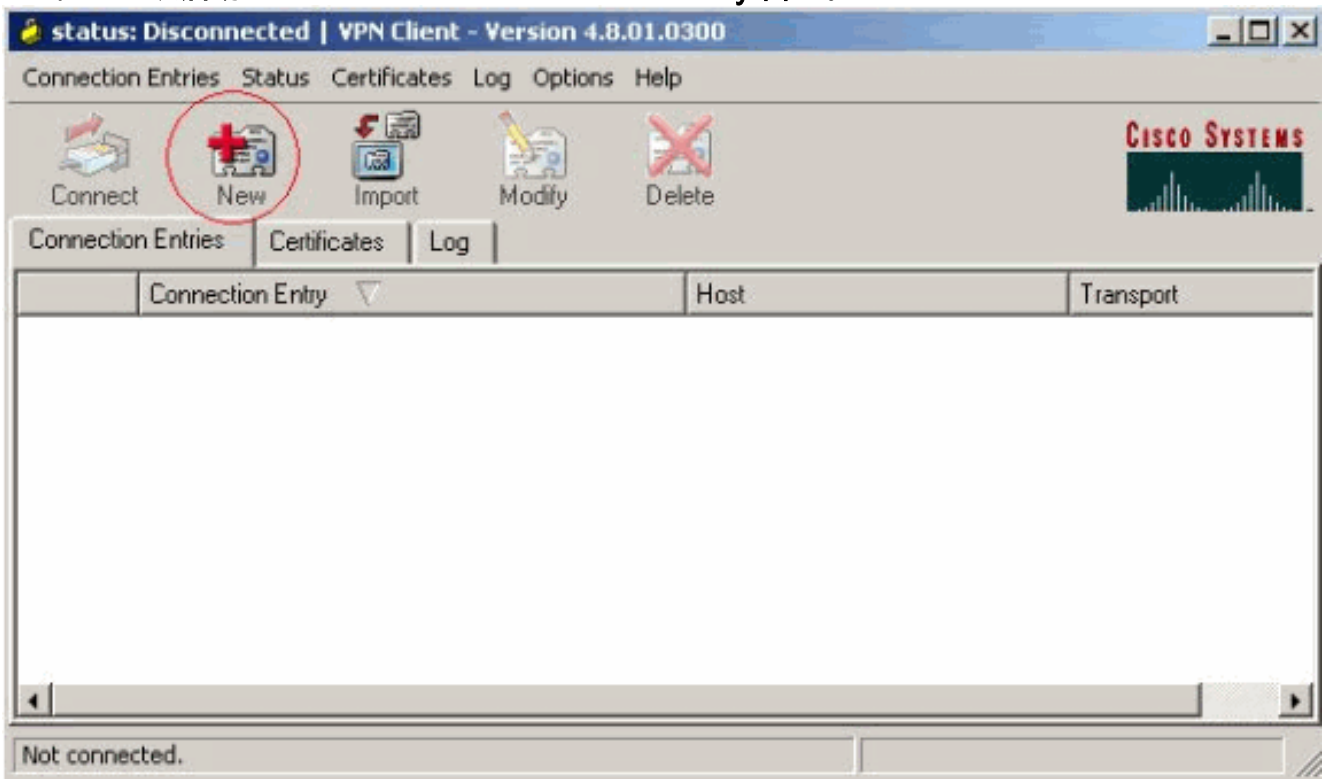
4. 在下一个窗口中，为用户 cisco 指定口令。在本例中，口令也是 cisco。可以将用户帐户映射到组。完成后，单击 **Submit**。



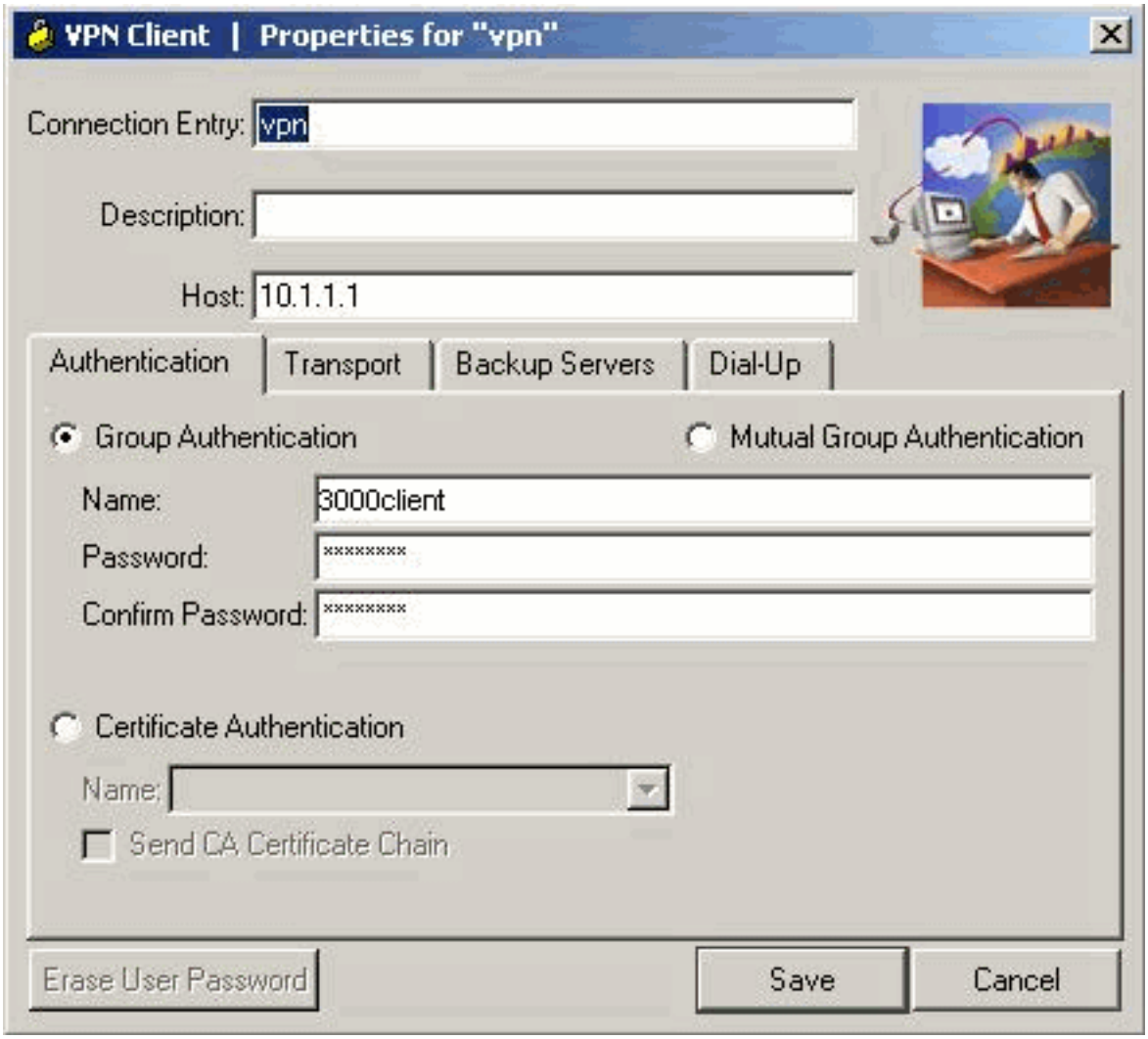
VPN 客户端 4.8 配置

完成下列步骤以配置 VPN Client 4.8：

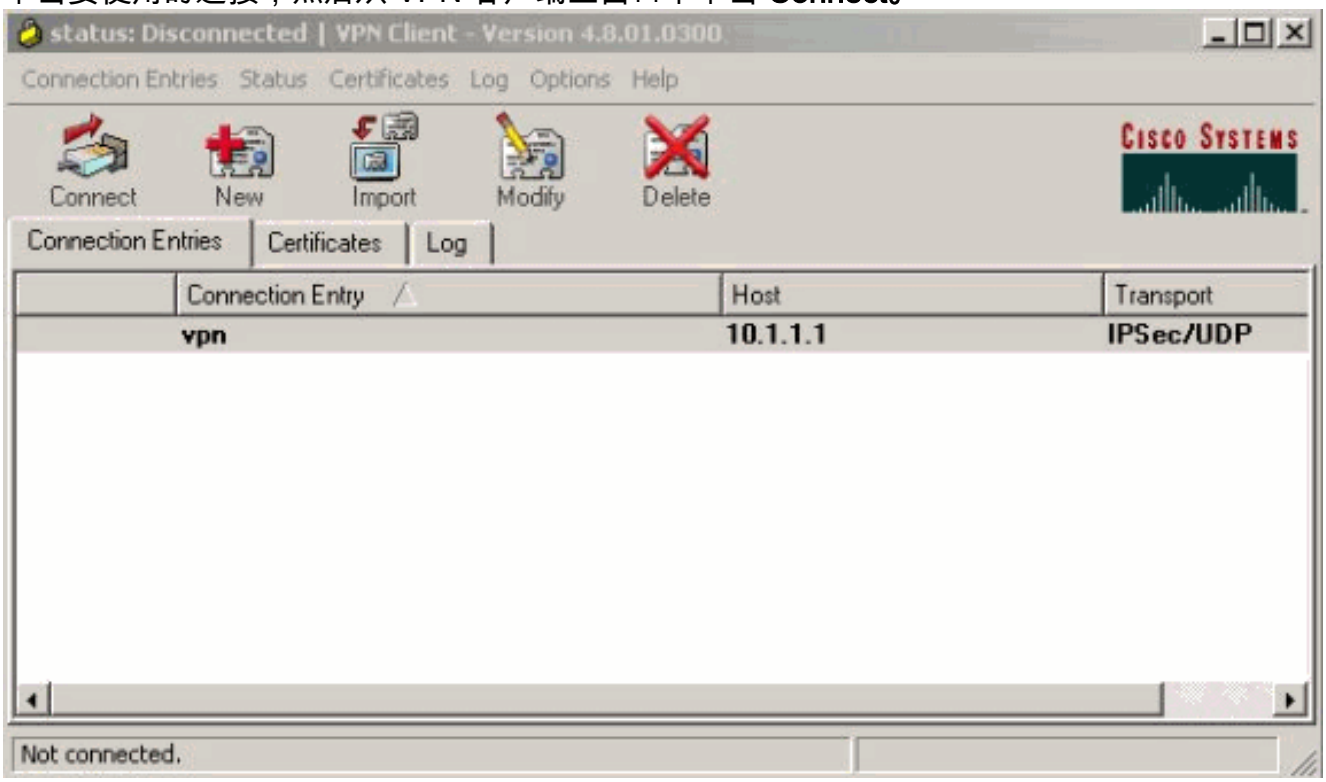
1. 选择**开始 > 程序 > Cisco Systems VPN 客户端 > VPN 客户端**。
2. 单击 **New** 以启动 **Create New VPN Connection Entry** 窗口。



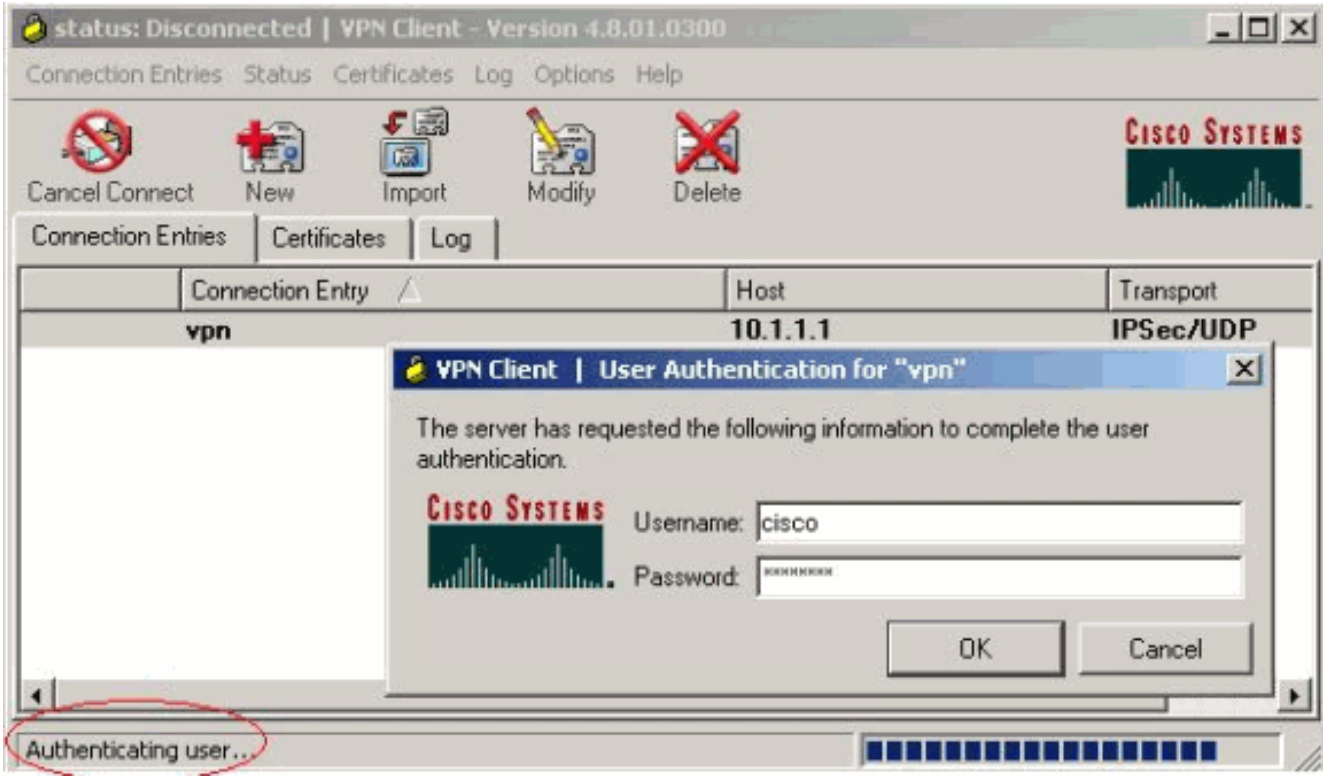
3. 输入 Connection Entry 的名称与说明。在“Host”框中输入路由器的外部 IP 地址。然后输入 VPN 组的名称和口令，并单击 **Save**。



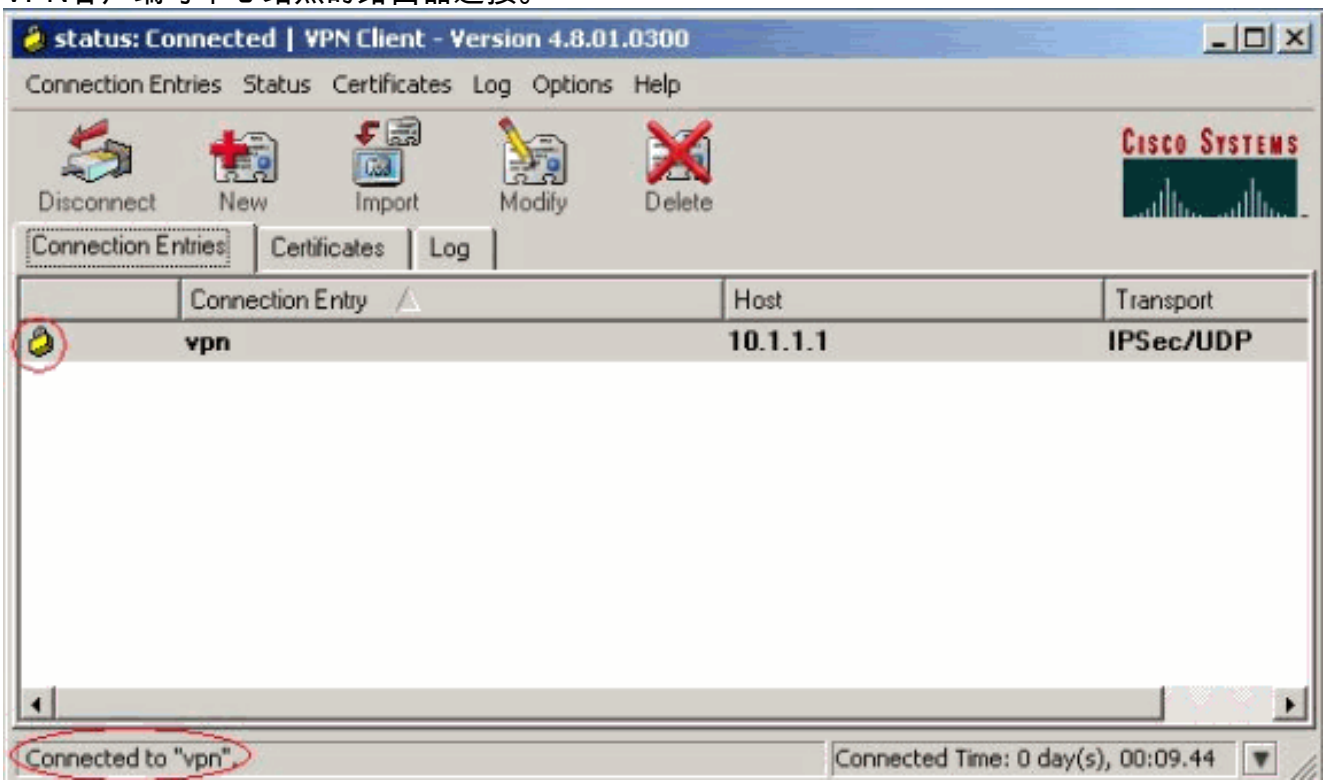
4. 单击要使用的连接，然后从 VPN 客户端主窗口中单击 **Connect**。



5. 出现提示时，输入用于 xauth 的 Username 和 Password 信息，然后单击 **OK 以连接远程网络**。



VPN客户端与中心站点的路由器连接。



启用分割隧道

为启用 VPN 连接的分割隧道，请确保路由器上已配置有访问控制列表 (ACL)。在本示例中，**access-list 108 命令与用于分割隧道的组关联，并且该隧道通向 14.38.X.X /16 网络。**数据流在未加密的情况下流向 ACL 108（例如 Internet）以外的设备。

```
access-list 108 permit ip 172.18.124.0 0.0.255.255 10.16.20.0 0.0.0.255
```

针对组属性应用 ACL。

```
crypto isakmp client configuration group 3000client
 key cisco123
 dns 10.1.1.10
 wins 10.1.1.20
 domain cisco.com
 pool ippool
 acl 108
```

配置 RADIUS 服务器后退功能

当主要的RADIUS服务器不可用时，路由器将故障切换到下个有效的备份RADIUS服务器。路由器将始终继续使用辅助 RADIUS 服务器，即使主服务器可用也是如此。通常主服务器是高性能和首选的服务器。如果辅助服务器不可用，可以使用本地数据库进行身份验证，方法是使用 **aaa authentication login userauthen group radius local 命令。**

验证

使用本部分可确认配置能否正常运行。

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。

下面是相关 **show 命令的输出：**

```
vpn2621#show crypto isakmp sa
dst             src             state          conn-id    slot
10.1.1.1  10.0.0.1    QM_IDLE          3       0


vpn2621#show crypto ipsec sa interface: Ethernet0/0
    Crypto map tag: clientmap, local addr. 10.1.1.1

   local  ident (addr/mask/prot/port): (10.1.1.1/255.255.255.255/0/0)
   remote ident (addr/mask/prot/port): (10.16.20.2/255.255.255.255/0/0)
   current_peer: 10.0.0.1
     PERMIT, flags={}
    #pkts encaps: 5, #pkts encrypt: 5, #pkts digest 5
    #pkts decaps: 5, #pkts decrypt: 5, #pkts verify 5
    #pkts compressed: 0, #pkts decompressed: 0
    #pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0
    #send errors 0, #recv errors 0

     local crypto endpt.: 10.1.1.1, remote crypto endpt.: 10.0.0.1
     path mtu 1500, media mtu 1500
     current outbound spi: 77AFCCFA

     inbound esp sas:
      spi: 0xC7AC22AB(3349947051)
        transform: esp-3des esp-sha-hmac ,
        in use settings ={Tunnel, }
        slot: 0, conn id: 2000, flow_id: 1, crypto map: clientmap
        sa timing: remaining key lifetime (k/sec): (4608000/3444)
```

```
        IV size: 8 bytes
        replay detection support: Y

      inbound ah sas:

      inbound pcp sas:

      outbound esp sas:
       spi: 0x77AFCCFA(2008009978)
        transform: esp-3des esp-sha-hmac ,
        in use settings ={Tunnel, }
        slot: 0, conn id: 2001, flow_id: 2, crypto map: clientmap
        sa timing: remaining key lifetime (k/sec): (4608000/3444)
        IV size: 8 bytes
        replay detection support: Y

      outbound ah sas:

      outbound pcp sas:


   local  ident (addr/mask/prot/port): (172.18.124.0/255.255.255.0/0/0)
   remote ident (addr/mask/prot/port): (10.16.20.2/255.255.255.255/0/0)
   current_peer: 10.0.0.1
     PERMIT, flags={}
#pkts encaps: 4, #pkts encrypt: 4, #pkts digest 4
    #pkts decaps: 6, #pkts decrypt: 6, #pkts verify 6
    #pkts compressed: 0, #pkts decompressed: 0
    #pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0
    #send errors 0, #recv errors 0

     local crypto endpt.: 10.1.1.1, remote crypto endpt.: 10.0.0.1
     path mtu 1500, media mtu 1500
     current outbound spi: 2EE5BF09

     inbound esp sas:
      spi: 0x3565451F(895829279)
        transform: esp-3des esp-sha-hmac ,
        in use settings ={Tunnel, }
        slot: 0, conn id: 2002, flow_id: 3, crypto map: clientmap
        sa timing: remaining key lifetime (k/sec): (4607999/3469)
        IV size: 8 bytes
        replay detection support: Y

      inbound ah sas:

      inbound pcp sas:

      outbound esp sas:
       spi: 0x2EE5BF09(786808585)
        transform: esp-3des esp-sha-hmac ,
        in use settings ={Tunnel, }
        slot: 0, conn id: 2003, flow_id: 4, crypto map: clientmap
        sa timing: remaining key lifetime (k/sec): (4607999/3469)
        IV size: 8 bytes
        replay detection support: Y

      outbound ah sas:

      outbound pcp sas:
```

```
vpn2621#show crypto engine connections active

  ID Interface       IP-Address      State  Algorithm           Encrypt  Decrypt
   3 Ethernet0/0     10.1.1.1  set    HMAC_SHA+3DES_56_C        0        0
2000 Ethernet0/0     10.1.1.1  set    HMAC_SHA+3DES_56_C        0        5
2001 Ethernet0/0     10.1.1.1  set    HMAC_SHA+3DES_56_C        5        0
2002 Ethernet0/0     10.1.1.1  set    HMAC_SHA+3DES_56_C        0        6
2003 Ethernet0/0     10.1.1.1  set    HMAC_SHA+3DES_56_C        4        0

vpn2621#show crypto engine accelerator statistic
Virtual Private Network (VPN) Module in aim slot : 0
Statistics for Hardware VPN Module since the last clear
 of counters 5570 seconds ago
           14 packets in                        14 packets out
            0 packet overruns                    0 output packets dropped
            0 packets decompressed               0 packets compressed
            0 compressed bytes in                0 uncompressed bytes in
            0 decompressed bytes out             0 compressed bytes out
            0 packets bypass compression         0 packets abort compression
            0 packets fail decompression         0 packets fail compression
            7 packets decrypted                  7 packets encrypted
          532 bytes decrypted                  532 bytes encrypted
          784 bytes before decrypt           19200 bytes after encrypt
            0 paks/sec in                        0 paks/sec out
            0 Kbits/sec decrypted                0 Kbits/sec encrypted
       Last 5 minutes:
          14 packets in                        14 packets out
           7 packets decrypted                  7 packets encrypted
         532 bytes decrypted                  420 bytes encrypted
         784 bytes before decrypt             672 bytes after encrypt
           0 paks/sec in                        0 paks/sec out
           0 Kbits/sec decrypted                0 Kbits/sec encrypted
   rx_no_endp:          0  rx_hi_discards:       0    fw_failure:             0
   invalid_sa:          0  invalid_flow:         0    cgx_errors              0
   fw_qs_filled:        0  fw_resource_lock:     0    lotx_full_err:          0
   null_ip_error:       0  pad_size_error:       0    out_bound_dh_acc:       0
   esp_auth_fail:       0  ah_auth_failure:      0    crypto_pad_error:       0
   ah_prot_absent:      0  ah_seq_failure:       0    ah_spi_failure:         0
   esp_prot_absent:     0  esp_seq_fail:         0    esp_spi_failure:        0
   obound_sa_acc:       0  invalid_sa:           0    out_bound_sa_flow:      0
   invalid_dh:          0  bad_keygroup:         0    out_of_memory:          0
   no_sh_secret:        0  no_skeys:             0    invalid_cmd:            0
   dsp_coproc_err:      0  comp_unsupported:     0    pak_too_big:            0
   null packets:        0
   pak_mp_length_spec_fault:      0 cmd queue errors:      0
   tx_lo_queue_size_max      0 cmd_unimplemented:      0
   Interrupts:    439  Immed:      0  HiPri ints:      14
   LoPri ints:    425  POST Errs:      0 Alerts:      0
   Unk Cmds:        0  UnexpCmds:      0
   cgx_cmd_pending:0   packet_loop_max: 0packet_loop_limit: 0
vpn2621#sh crypto engine configuration

        crypto engine name:  Virtual Private Network (VPN) Module
        crypto engine type:  hardware

             Product Name:  AIM-VPN/BP
            Configuration:  0x000109010F00F00784000000
                          :  0x995FB1441BA279D5BD46CF6C
                          :  0xECE77614C30835CB0A000300
                          :  0x00000000000000000000000000
          CryptIC Version:  001.000
              CGX Version:  001.009
```

```
            CGX Reserved:  0x000F
               PCDB info:  0x07F0 0x0084 0x0000
           Serial Number:  0x5F9944B1A21BD57946BD
                        :  0x6CCFE7EC14768C3CB35
     DSP firmware version:  000.010
    DSP Bootstrap Version:  000.003
       DSP Bootstrap Info:  0x0000

             Compression:  Yes
                    DES:  Yes
                  3 DES:  Yes
                AES CBC:  No
               AES CNTR:  No
  Maximum buffer length:  4096
       Maximum DH index:  0210
       Maximum SA index:  0420
     Maximum Flow index:  0840
    Maximum RSA key size:  0000
   crypto engine in slot:  0
                platform:  VPN hardware accelerator

Crypto Adjacency Counts:
             Lock Count:  0
           Unlock Count:  0
     crypto lib version:  16.0.0
      ipsec lib version:  2.0.0
```

故障排除

使用本部分可排除配置故障。

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 crypto ipsec - 显示有关 IPsec 连接的调试信息。**
- **debug crypto isakmp — 显示有关 IPSec 连接的调试信息，并显示由于两端不兼容而被拒绝的第一组属性。**
- **debug crypto engine - 显示来自加密引擎的信息。**
- **debug aaa authentication — 显示有关 AAA/增强型终端访问控制器访问控制系统 (TACACS+) 身份验证的信息。**
- **debug aaa authorization raduis — 显示有关 AAA/TACACS+ 授权的信息。**
- **debug radius — 显示有关 RADIUS 服务器与路由器之间通信故障排除的信息。**

调试输出

本部分提供来自路由器的调试信息，这些信息可用于对您的配置进行故障排除。

路由器日志

```
vpn2621#show debug
```

```
General OS:
  AAA Authentication debugging is on
  AAA Authorization debugging is on

Radius protocol debugging is on
Radius packet protocol debugging is on


Cryptographic Subsystem:
  Crypto ISAKMP debugging is on
  Crypto Engine debugging is on
  Crypto IPSEC debugging is on


vpn2621#
*ISAKMP (0:0): received packet from 10.0.0.1 dport 500 sport 500 Global (N) NEW SA
*ISAKMP: Created a peer struct for 10.0.0.1, peer port 500
*ISAKMP: Locking peer struct 0x83166B20, IKE refcount 1 for
         crypto_ikmp_config_initialize_sa
*ISAKMP (0:0): Setting client config settings 82F0F82C
*ISAKMP (0:0): (Re)Setting client xauth list  and state
*ISAKMP: local port 500, remote port 500
*ISAKMP: insert sa successfully sa = 83165694
*ISAKMP (0:1): processing SA payload. message ID = 0
*ISAKMP (0:1): processing ID payload. message ID = 0
*ISAKMP (0:1): peer matches *none* of the profiles
*ISAKMP (0:1): processing vendor id payload
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 215 mismatch
*ISAKMP (0:1): vendor ID is XAUTH
*ISAKMP (0:1): processing vendor id payload
*ISAKMP (0:1): vendor ID is DPD
*ISAKMP (0:1): processing vendor id payload
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 123 mismatch
*ISAKMP (0:1): vendor ID is NAT-T v2
*ISAKMP (0:1): processing vendor id payload
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 194 mismatch
*ISAKMP (0:1): processing vendor id payload
*ISAKMP (0:1): vendor ID is Unity
*ISAKMP (0:1) Authentication by xauth preshared
*ISAKMP (0:1): Checking ISAKMP transform 1 against priority 3 policy
*ISAKMP:      encryption AES-CBC
*ISAKMP:      hash SHA
*ISAKMP:      default group 2
*ISAKMP:      auth XAUTHInitPreShared
*ISAKMP:      life type in seconds
*ISAKMP:      life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP:      keylength of 256
*ISAKMP (0:1): Encryption algorithm offered does not match policy!
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
-snip/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
```

!--- ISAKMP values are acceptable and then the router continues with the !--- ISAKMP negotiation process. ***ISAKMP (0:1): Checking ISAKMP transform 9 against priority 3 policy**

```
*ISAKMP:      encryption 3DES-CBC
*ISAKMP:      hash SHA
*ISAKMP:      default group 2
*ISAKMP:      auth XAUTHInitPreShared
*ISAKMP:      life type in seconds
*ISAKMP:      life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable. Next payload is 3
*CryptoEngine0: generate alg parameter
*CryptoEngine0: CRYPTO_ISA_DH_CREATE(hw)(ipsec)
```

```
*CRYPTO_ENGINE: Dh phase 1 status: 0
*ISAKMP (0:1): processing KE payload. message ID = 0
*CryptoEngine0: generate alg parameter
*CryptoEngine0: CRYPTO_ISA_DH_SHARE_SECRET(hw)(ipsec)
*ISAKMP (0:1): processing NONCE payload. message ID = 0
*ISAKMP (0:1): vendor ID is NAT-T v2
*AAA: parse name=ISAKMP-ID-AUTH idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x830E12E8) user='3000client' ruser='NULL' ds0=0
 port='ISAKMP-ID-AUTH' rem_addr='10.0.0.1' authen_type=NONE service=LOGIN
 priv=0 initial_task_id='0', vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_AM_EXCH
*ISAKMP (0:1): Old State = IKE_READY  New State = IKE_R_AM_AAA_AWAIT

*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): Port='ISAKMP-ID-AUTH'
 list='groupauthor' service=NET
*AAA/AUTHOR/CRYPTO AAA: ISAKMP-ID-AUTH(54534875) user='3000client'
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): send AV service=ike
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): send AV protocol=ipsec
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): found list "groupauthor"
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): Method=LOCAL
*AAA/AUTHOR (54534875): Post authorization status = PASS_ADD
*ISAKMP: got callback 1
*
AAA/AUTHOR/IKE: Processing AV service=ike
*
AAA/AUTHOR/IKE: Processing AV protocol=ipsec
*
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
*
AAA/AUTHOR/IKE: Processing AV default-domain*cisco.com
*
AAA/AUTHOR/IKE: Processing AV addr-pool*ippool
*
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
*
AAA/AUTHOR/IKE: Processing AV group-lock*0
*
AAA/AUTHOR/IKE: Processing AV timeout*0
*
AAA/AUTHOR/IKE: Processing AV idletime*0
*
AAA/AUTHOR/IKE: Processing AV inacl*108
*
AAA/AUTHOR/IKE: Processing AV dns-servers*10.1.1.10 0.0.0.0
*
AAA/AUTHOR/IKE: Processing AV wins-servers*10.1.1.20 0.0.0.0
*CryptoEngine0: create ISAKMP SKEYID for conn id 1
*CryptoEngine0: CRYPTO_ISA_SA_CREATE(hw)(ipsec)
*ISAKMP (0:1): SKEYID state generated
*ISAKMP (0:1): constructed NAT-T vendor-02 ID
*ISAKMP (0:1): SA is doing pre-shared key authentication plus XAUTH using
               id type ID_IPV4_ADDR
*ISAKMP (1): ID payload
        next-payload : 10
        type         : 1
        addr         : 10.1.1.1
        protocol     : 17
        port         : 0
        length       : 8
*ISAKMP (1): Toine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 0
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)tal payload length: 12
*CryptoEngine0: generate hmac conte
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*ISAKMP (0:1): processing NOTIFY INITIAL_CONTACT protocol 1
        spi 0, message ID = 0, sa = 83165694
*ISAKMP (0:1): Process initial contact,
bring down existing phase 1 and 2 SA's with local 10.1.1.1 remote
10.0.0.1 remote port 500
*ISAKMP (0:1): returning IP addr to the address pool
*ISAKMP:received payload type 17
*ISAKMP (0:1): Detected NAT-D payload
*ISAKMP (0:1): recalc my hash for NAT-D
*ISAKMP (0:1): NAT match MINE hash
*ISAKMP:received payload type 17xt for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): constructed HIS NAT-D
*ISAKMP (0:1): constructed MINE NAT-D
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) AG_INIT_EXCH
*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, PRESHARED_KEY_REPLY
*ISAKMP (0:1): Old State = IKE_R_AM_AAA_AWAIT  New State = IKE_R_AM2

*AAA/MEMORY: free_user (0x830E12E8) user='3000client' ruser='NULL' port='ISAKMP-ID-AUTH'
 rem_addr='10.0.0.1' authen_type=NONE service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) AG_INIT_EXCH
*CryptoEng
*ISAKMP (0:1): Detected NAT-D payload
*ISAKMP (0:1): recalc his hash for NAT-D
*ISAKMP (0:1): NAT match HIS hash
*ISAKMP (0:1): SA has been authenticated with 10.0.0.1
*CryptoEngine0: clear dh number for conn id 1
*ISAKMP: Trying to insert a peer 10.0.0.1/500/,  and inserted successfully.
*ISAKMP (0:1): IKE_DPD is enabled, initializing timers
*ISAKMP: set new node 2011892843 to CONF_XAUTH
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*IPSEC(key_engine): got a queue event...
*CryptoEngine0: CRYPTO_ISA_DH_DELETE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): purging node 2011892843
*ISAKMP: Sending phase 1 responder lifetime 86400

*ISAKMP (0:1): peer matches *none* of the profiles
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_AM_EXCH
*ISAKMP (0:1): Old State = IKE_R_AM2  New State = IKE_P1_COMPLETE

*ISAKMP (0:1): Need XAUTH
*AAA: parse name=ISAKMP idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x830DE43C) user='NULL' ruser='NULL' ds0=0 port='ISAKMP'
 rem_addr='10.0.0.1' authen_type=ASCII service=LOGIN priv=0 initial_task_id='0',
 vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE  New State = IKE_XAUTH_AAA_START_LOGIN_AWAIT

*AAA/AUTHEN/START (992119247): port='ISAKMP' list='userauthen' action=LOGIN service=LOGIN
*AAA/AUTHEN/START (992119247): found list userauthen
*AAA/AUTHEN/START (992119247): Method=radius (radius)
*AAA/AUTHEN(992119247): Status=GETUSER
*ISAKMP: got callback 1
*ISAKMP: set new node -883516238 to CONF_XAUTH
*ISAKMP/xauth: request attribute XAUTH_USER_NAME_V2
*ISAKMP/xauth: request attribute XAUTH_USER_PASSWORD_V2
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): initiating peer config to 10.0.0.1. ID = -883516238
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
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*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, IKE_AAA_START_LOGIN
*ISAKMP (0:1): Old State = IKE_XAUTH_AAA_START_LOGIN_AWAIT  New State = IKE_XAUTH_REQ_SENT

*ISAKMP (0:1): retransmitting phase 2 CONF_XAUTH    -883516238 ...
*ISAKMP (0:1): incrementing error counter on sa: retransmit phase 2
*ISAKMP (0:1): incrementing error counter on sa: retransmit phase 2
*ISAKMP (0:1): retransmitting phase 2 -883516238 CONF_XAUTH
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) CONF_XAUTH
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -883516238
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload REPLY
*ISAKMP/xauth: reply attribute XAUTH_USER_NAME_V2
*ISAKMP/xauth: reply attribute XAUTH_USER_PASSWORD_V2
*ISAKMP (0:1): deleting node -883516238 error FALSE reason
              "done with xauth request/reply exchange"
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_REPLY
*ISAKMP (0:1): Old State = IKE_XAUTH_REQ_SENT  New State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT

*AAA/AUTHEN/CONT (992119247): continue_login (user='(undef)')
*AAA/AUTHEN(992119247): Status=GETUSER
*AAA/AUTHEN(992119247): Method=radius (radius)
*AAA/AUTHEN(992119247): Status=GETPASS
*AAA/AUTHEN/CONT (992119247): continue_login (user='cisco')
*AAA/AUTHEN(992119247): Status=GETPASS
*AAA/AUTHEN(992119247): Method=radius (radius)
*RADIUS: Pick NAS IP for u=0x830DE43C tableid=0 cfg_addr=0.0.0.0 best_addr=10.1.1.1
*RADIUS: ustruct sharecount=2
*Radius: radius_port_info() success=0 radius_nas_port=1
*RADIUS(00000000): Send Access-Request to 172.18.124.96:1645 id 21645/4, len 72
*RADIUS:  authenticator F2 7F ED 86 2B D9 80 1F - 74 D7 8F 90 3B EF F0 D5
*RADIUS:  NAS-IP-Address      [4]   6   10.1.1.1
*RADIUS:  NAS-Port-Type       [61]  6   Async                     [0]
*RADIUS:  User-Name           [1]   9   "cisco"
*RADIUS:  Calling-Station-Id  [31]  13  "10.0.0.1"
*RADIUS:  User-Password       [2]   18  *
*RADIUS: Retransmit to (172.18.124.96:1645,1646) for id 21645/4
*RADIUS: Received from id 21645/4 172.18.124.96:1645, Access-Accept, len 62
*RADIUS:  authenticator 97 DF CB C8 74 AC 92 D6 - 3B D8 D9 DC 9E 85 94 35
*RADIUS:  Framed-IP-Address   [8]   6   172.17.8.123
*RADIUS:  Class               [25]  36
*RADIUS:   43 49 53 43 4F 41 43 53 3A 30 30 30 30 31 38 32  [CISCOACS:0000182]
*RADIUS:   62 2F 61 63 31 32 37 63 39 66 2F 74 6E 65 75 62  [b/ac127c9f/cisco]
*RADIUS:   65 72
*RADIUS: saved authorization data for user 830DE43C at 830DB5FC
*AAA/AUTHEN(992119247): Status=PASS
*ISAKMP: got callback 1
*ISAKMP: set new node -1874799558 to CONF_XAUTH
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): initiating peer config to 10.0.0.1. ID = -1874799558
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, IKE_AAA_CONT_LOGIN
*ISAKMP (0:1): Old State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT  New State = IKE_XAUTH_SET_SENT

*AAA/MEMORY: free_user (0x830DE43C) user='cisco' ruser='NULL' port='ISAKMP'
 rem_addr='10.0.0.1' authen_type=ASCII service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) CONF_XAUTH
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -1874799558
*CryptoEngine0: generate hmac context for conn id 1
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*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload ACK
*ISAKMP (0:1):        XAUTH ACK Processed
*ISAKMP (0:1): deleting node -1874799558 error FALSE reason "done with transaction"
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_ACK
*ISAKMP (0:1): Old State = IKE_XAUTH_SET_SENT  New State = IKE_P1_COMPLETE

*ISAKMP (0:1): Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE  New State = IKE_P1_COMPLETE

*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*ISAKMP: set new node -1474156599 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -1474156599
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload REQUEST
*ISAKMP (0:1): checking request:
*ISAKMP:    IP4_ADDRESS
*ISAKMP:    IP4_NETMASK
*ISAKMP:    IP4_DNS
*ISAKMP:    IP4_NBNS
*ISAKMP:    ADDRESS_EXPIRY
*ISAKMP:    APPLICATION_VERSION
*ISAKMP:    UNKNOWN Unknown Attr: 0x7000
*ISAKMP:    UNKNOWN Unknown Attr: 0x7001
*ISAKMP:    DEFAULT_DOMAIN
*ISAKMP:    SPLIT_INCLUDE
*ISAKMP:    UNKNOWN Unknown Attr: 0x7003
*ISAKMP:    UNKNOWN Unknown Attr: 0x7007
*ISAKMP:    UNKNOWN Unknown Attr: 0x7008
*ISAKMP:    UNKNOWN Unknown Attr: 0x7009
*ISAKMP:    UNKNOWN Unknown Attr: 0x700A
*ISAKMP:    UNKNOWN Unknown Attr: 0x7005
*AAA: parse name=ISAKMP-GROUP-AUTH idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x831663A0) user='3000client' ruser='NULL' ds0=0
 port='ISAKMP-GROUP-AUTH' rem_addr='10.0.0.1' authen_type=NONE service=LOGIN
 priv=0 initial_task_id='0', vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_REQUEST
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE  New State = IKE_CONFIG_AUTHOR_AAA_AWAIT

*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): Port='ISAKMP-GROUP-AUTH'
 list='groupauthor' service=NET
*AAA/AUTHOR/CRYPTO AAA: ISAKMP-GROUP-AUTH(3136771130) user='3000client'
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): send AV service=ike
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): send AV protocol=ipsec
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): found list "groupauthor"
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): Method=LOCAL
*AAA/AUTHOR (3136771130): Post authorization status = PASS_ADD
*ISAKMP: got callback 1
* AAA/AUTHOR/IKE: Processing AV service=ike
* AAA/AUTHOR/IKE: Processing AV protocol=ipsec
*
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
*
AAA/AUTHOR/IKE: Processing AV default-domain*cisco.com
*
AAA/AUTHOR/IKE: Processing AV addr-pool*ippool
*
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
*
AAA/AUTHOR/IKE: Processing AV group-lock*0
*
AAA/AUTHOR/IKE: Processing AV timeout*0
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*
AAA/AUTHOR/IKE: Processing AV idletime*0
*
AAA/AUTHOR/IKE: Processing AV inacl*108
*
AAA/AUTHOR/IKE: Processing AV dns-servers*10.1.1.10 0.0.0.0
*
AAA/AUTHOR/IKE: Processing AV wins-servers*10.1.1.20 0.0.0.0
*ISAKMP (0:1): attributes sent in message:
*        Address: 0.2.0.0
*ISAKMP (0:1): allocating address 10.16.20.1
*ISAKMP: Sending private address: 10.16.20.1
*ISAKMP: Sending IP4_DNS server address: 10.1.1.10
*ISAKMP: Sending IP4_NBNS server address: 10.1.1.20
*ISAKMP: Sending ADDRESS_EXPIRY seconds left to use the address: 86388
*ISAKMP: Sending APPLICATION_VERSION string: Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2,  RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 01-May-03 10:39 by nmasa
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7000)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7001)
*ISAKMP: Sending DEFAULT_DOMAIN default domain name: cisco.com
*ISAKMP: Sending split include name 108 network 172.18.124.0 mask 255.255.255.0
 protocol 0, src port 0, dst port 0

*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7003)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7007)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7008)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7009)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x700A)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7005)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): responding to peer config from 10.0.0.1. ID = -1474156599
*CryptoEngi*ISAKMP (0:1): deleting node -1474156599 error FALSE reason
 ""ne0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_por231
*ISAKMP (0:1): processing SA payload. message ID = 2058744231
*ISAKMP (0:1): Checking IPSec proposal 1
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256t 500 peer_port 500 (R) CONF_ADDR

*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, IKE_AAA_GROUP_ATTR
*ISAKMP (0:1): Old State = IKE_CONFIG_AUTHOR_AAA_AWAIT  New State = IKE_P1_COMPLETE

*AAA/MEMORY: free_user (0x831663A0) user='3000client' ruser='NULL' port='ISAKMP-GROUP-AUTH'
 rem_addr='10.0.0.1' authen_type=NONE service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*ISAKMP: set new node 2058744231 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 2058744
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 1
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
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*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 3
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
```

```
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 3
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
```

```
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 5
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 6
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 7
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
```

```
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 8
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-sha-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 9
*ISAKMP: transform 1, ESP_3DES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 9
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*IPSEC(spi_response): getting spi 3233689542 for SA
        from 10.1.1.1  to 10.0.0.1     for prot 3
*ISAKMP: received ke message (2/1)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): Node 2058744231, Input = IKE_MESG_FROM_IPSEC, IKE_SPI_REPLY
*ISAKMP (0:1): Old State = IKE_QM_SPI_STARVE  New State = IKE_QM_R_QM2
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*ISAKMP: Locking peer struct 0x83166B20, IPSEC refcount 1 for for stuff_ke
 !--- A matching IPSec policy has been negotiated and authenticated. !--- Next, the SA's are set
up. *ISAKMP (0:1): Creating IPSec SAs
*        inbound SA from 10.0.0.1 to 10.1.1.1 (f/i)  0/ 0
        (proxy 10.16.20.1 to 10.1.1.1)
*        has spi 0xC0BE2FC6 and conn_id 420 and flags 2
```

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*        lifetime of 2147483 seconds
*        has client flags 0x0
*        outbound SA from 10.1.1.1  to 10.0.0.1     (f/i)  0/ 0
        (proxy 10.1.1.1  to 10.16.20.1     )
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*ISAKMP: set new node 1101355775 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 1101355775
*ISAKMP (0:1): processing SA payload. message ID = 1101355775
*ISAKMP (0:1): Checking IPSec proposal 1
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 1
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
```

```
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 3
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 3
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
```

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*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 5
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 6
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
```

```
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 7
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 8
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(spi_response): getting spi 3438126624 for SA
        from 10.1.1.1  to 10.0.0.1     for prot 3
*ISAKMP: received ke message (2/1)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): Node 1101355775, Input = IKE_MESG_FROM_IPSEC, IKE_SPI_REPLY
*ISAKMP (0:1): Old State = IKE_QM_SPI_STARVE  New State = IKE_QM_R_QM2
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*ISAKMP: Locking peer struct 0x83166B20, IPSEC refcount 2 for for stuff_ke
```

```
*ISAKMP (0:1): Creating IPSec SAs
*        inbound SA from 10.0.0.1 to 10.1.1.1 (f/i)  0/ 0
        (proxy 10.16.20.1 to 172.18.124.0)
*        has spi 0xCCEDA620 and conn_id 422 and flags 2
*        lifetime of 2147483 seconds
*        has client flags 0x0
*        outbound SA from 10.1.1.1  to 10.0.0.1     (f/i)  0/ 0
        (proxy 172.18.124.0         to 10.16.20.1     )
```

客户端日志

在 VPN 客户端上启动 LogViewer 以查看日志。确保对于所有已配置的类，过滤器均设置为 High。以下是日志输出示例：

```
1      16:52:27.031  06/18/03  Sev=Info/6       DIALER/0x63300002
Initiating connection.

2      16:52:27.041  06/18/03  Sev=Info/4       CM/0x63100002
Begin connection process

3      16:52:27.051  06/18/03  Sev=Info/4       CM/0x63100004
Establish secure connection using Ethernet

4      16:52:27.051  06/18/03  Sev=Info/4       CM/0x63100024
Attempt connection with server "10.1.1.1"

5      16:52:27.101  06/18/03  Sev=Info/6       IKE/0x6300003B
Attempting to establish a connection with 10.1.1.1.

6      16:52:27.481  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID, VID, VID, VID, VID)
            to 10.1.1.1

7      16:52:27.612  06/18/03  Sev=Info/4       IPSEC/0x63700014
Deleted all keys

8      16:52:27.722  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

9      16:52:27.722  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK AG (SA, VID, VID, VID, VID, VID, KE, ID, NON, HASH, NAT-D, NAT-D)
              from 10.1.1.1

10     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000059
Vendor ID payload = 12F5F28C457168A9702D9FE274CC0100

11     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000001
Peer is a Cisco-Unity compliant peer

12     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000059
Vendor ID payload = AFCAD71368A1F1C96B8696FC77570100

13     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000001
Peer supports DPD

14     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000059
Vendor ID payload = 4F6CF9393C7749D894C6C92D2131AE04

15     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000059
Vendor ID payload = 09002689DFD6B712

16     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000001
```

```
Peer supports XAUTH

17     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000059
Vendor ID payload = 90CB80913EBB696E086381B5EC427B1F

18     16:52:27.722  06/18/03  Sev=Info/5       IKE/0x63000001
Peer supports NAT-T

19     16:52:27.782  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK AG *(HASH, NOTIFY:STATUS_INITIAL_CONTACT, NAT-D, NAT-D)
            to 10.1.1.1

20     16:52:27.822  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

21     16:52:27.822  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:STATUS_RESP_LIFETIME)
              from 10.1.1.1

22     16:52:27.822  06/18/03  Sev=Info/5       IKE/0x63000044
RESPONDER-LIFETIME notify has value of 86400 seconds

23     16:52:27.822  06/18/03  Sev=Info/5       IKE/0x63000046
This SA has already been alive for 0 seconds, setting expiry to 86400 seconds from now

24     16:52:27.842  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

25     16:52:27.842  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

26     16:52:27.842  06/18/03  Sev=Info/4       CM/0x63100015
Launch xAuth application

27     16:52:32.449  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

28     16:52:32.449  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(Retransmission) from 10.1.1.1

29     16:52:32.809  06/18/03  Sev=Info/4       CM/0x63100017
xAuth application returned

30     16:52:32.809  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

31     16:52:37.626  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

32     16:52:37.636  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

33     16:52:37.636  06/18/03  Sev=Info/5       IKE/0x63000071
Automatic NAT Detection Status:
   Remote end is NOT behind a NAT device
   This   end is NOT behind a NAT device

34     16:52:37.636  06/18/03  Sev=Info/4       CM/0x6310000E
Established Phase 1 SA.  1 Phase 1 SA in the system

35     16:52:37.656  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

36     16:52:37.987  06/18/03  Sev=Info/5       IKE/0x6300005D
```

```
Client sending a firewall request to concentrator

37     16:52:37.987  06/18/03  Sev=Info/5       IKE/0x6300005C
Firewall Policy: Product=Cisco Integrated Client, Capability=
(Centralized Protection Policy).

38     16:52:38.007  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

39     16:52:38.087  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

40     16:52:38.087  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

41     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_ADDRESS: , value = 10.16.20.1

42     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_DNS(1): , value = 10.1.1.10

43     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_NBNS(1) (a.k.a. WINS) : , value = 10.1.1.20

44     16:52:38.097  06/18/03  Sev=Info/5       IKE/0xA3000017
MODE_CFG_REPLY: The received (INTERNAL_ADDRESS_EXPIRY) attribute and value (86388)
is not supported

45     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x6300000E
MODE_CFG_REPLY: Attribute = APPLICATION_VERSION, value = Cisco Internetwork
Operating System Software IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2,
RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 01-May-03 10:39 by nmasa

46     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x6300000E
MODE_CFG_REPLY: Attribute = MODECFG_UNITY_DEFDOMAIN: , value = cisco.com

47     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x6300000D
MODE_CFG_REPLY: Attribute = MODECFG_UNITY_SPLIT_INCLUDE (# of split_nets),
value = 0x00000001

48     16:52:38.097  06/18/03  Sev=Info/5       IKE/0x6300000F
SPLIT_NET #1
        subnet = 172.18.124.0
        mask = 255.255.255.0
        protocol = 0
        src port = 0
        dest port=0

49     16:52:38.097  06/18/03  Sev=Info/4       CM/0x63100019
Mode Config data received

50     16:52:38.347  06/18/03  Sev=Info/5       IKE/0x63000055
Received a key request from Driver for IP address 10.1.1.1,
GW IP = 10.1.1.1

51     16:52:38.347  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 10.1.1.1

52     16:52:38.728  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1
```

```
53     16:52:38.728  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME)
              from 10.1.1.1

54     16:52:38.738  06/18/03  Sev=Info/5       IKE/0x63000044
RESPONDER-LIFETIME notify has value of 3600 seconds

55     16:52:38.738  06/18/03  Sev=Info/5       IKE/0x63000045
RESPONDER-LIFETIME notify has value of 4608000 kb

56     16:52:38.738  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 10.1.1.1

57     16:52:38.738  06/18/03  Sev=Info/5       IKE/0x63000058
Loading IPsec SA (Message ID = 0x7AB5F1A7 OUTBOUND SPI = 0xC0BE2FC6
INBOUND SPI = 0x56FFC535)

58     16:52:38.788  06/18/03  Sev=Info/5       IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0xC0BE2FC6

59     16:52:38.798  06/18/03  Sev=Info/5       IKE/0x63000026
Loaded INBOUND ESP SPI: 0x56FFC535

60     16:52:38.798  06/18/03  Sev=Info/4       CM/0x6310001A
One secure connection established

61     16:52:38.828  06/18/03  Sev=Info/6       DIALER/0x63300003
Connection established.

62     16:52:38.868  06/18/03  Sev=Info/6       CVPND/0x63400011
Found matching adapter

63     16:52:38.968  06/18/03  Sev=Info/6       CVPND/0x63400011
Found matching adapter

64     16:52:39.819  06/18/03  Sev=Info/4       CM/0x63100037
Address watch added for 10.0.0.1.  Current address(es): 10.0.0.1.

65     16:52:40.280  06/18/03  Sev=Info/4       IPSEC/0x63700014
Deleted all keys

66     16:52:40.280  06/18/03  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

67     16:52:40.290  06/18/03  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0xc62fbec0 into key list

68     16:52:40.290  06/18/03  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

69     16:52:40.290  06/18/03  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0x35c5ff56 into key list

70     16:52:41.562  06/18/03  Sev=Info/6       DIALER/0x63300008
MAPI32 Information - Outlook not default mail client

71     16:52:54.230  06/18/03  Sev=Info/5       IKE/0x63000055
Received a key request from Driver for IP address 1.1.1.2, GW IP = 10.1.1.1

72     16:52:54.250  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 10.1.1.1

73     16:52:54.731  06/18/03  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1
```

```
74      16:52:54.731  06/18/03  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME)
              from 10.1.1.1

75      16:52:54.741  06/18/03  Sev=Info/5       IKE/0x63000044
RESPONDER-LIFETIME notify has value of 3600 seconds

76      16:52:54.741  06/18/03  Sev=Info/5       IKE/0x63000045
RESPONDER-LIFETIME notify has value of 4608000 kb

77      16:52:54.741  06/18/03  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 10.1.1.1

78      16:52:54.741  06/18/03  Sev=Info/5       IKE/0x63000058
Loading IPsec SA (Message ID = 0x41A55AFF OUTBOUND SPI = 0xCCEDA620
INBOUND SPI = 0x0C5B3DB2)

79      16:52:54.771  06/18/03  Sev=Info/5       IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0xCCEDA620

80      16:52:54.781  06/18/03  Sev=Info/5       IKE/0x63000026
Loaded INBOUND ESP SPI: 0x0C5B3DB2

81      16:52:54.781  06/18/03  Sev=Info/4       CM/0x63100021
Additional Phase 2 SA established.

82      16:52:55.472  06/18/03  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

83      16:52:55.472  06/18/03  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0x20a6edcc into key list

84      16:52:55.472  06/18/03  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

85      16:52:55.472  06/18/03  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0xb23d5b0c into key list

86      16:52:55.472  06/18/03  Sev=Info/4       IPSEC/0x63700019
Activate outbound key with SPI=0x20a6edcc for inbound key with SPI=0xb23d5b0c
```

相关信息

- RADIUS 技术支持页
- IPsec 协商/IKE 协议支持页
- Cisco VPN 客户端支持页
- 请求注解 (RFC)
- 技术支持和文档 - Cisco Systems