Configuring IPSec Between a Cisco IOS Router and a Cisco VPN Client 4.x for Windows Using RADIUS

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Introduction

This document demonstrates how to configure a connection between a Cisco IOS Router and the Cisco VPN Client 4.x using RADIUS for group authorization and user authentication. Cisco IOS® Software Release 12.2(8)T and later support connections from Cisco VPN Client 3.x. The VPN Clients 3.x and 4.x use Diffie Hellman (DH) group 2 policy. The `isakmp policy # group 2` command enables the VPN Clients to connect.

Note: IPSec VPN Accounting is now available. Refer to IPSec VPN Accounting for more information and sample configurations.

Prerequisites

Requirements

Ensure that you meet these requirements before you attempt this configuration:

- A pool of addresses to be assigned for IPSec
- A group called "3000clients" with a pre-shared key of "cisco123"
- Group authorization and user authentication on a RADIUS server

Note: RADIUS Accounting is not supported at this time.

Components Used

The information in this document is based on these software and hardware versions:
• A 2611 Router that runs Cisco IOS Software Release 12.2(8)T.
• Cisco Secure ACS for Windows (any RADIUS server should work)
• Cisco VPN Client for Windows version 4.8 (any VPN Client 4.x should work)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

This is output from the show version command on the router:

```
vpn2611#show version
Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600−JK903S−M), Version 12.2(8)T,
   RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986−2002 by cisco Systems, Inc.
Compiled Thu 14−Feb−02 16:50 by ccai
Image text−base: 0x80008070, data−base: 0x81816184

ROM: System Bootstrap, Version 11.3(2)XA4, RELEASE SOFTWARE (fc1)

vpn2611 uptime is 1 hour, 15 minutes
System returned to ROM by reload
System image file is "flash:c2600−jk903s−mz.122−8.T"
cisco 2611 (MPC860) processor (revision 0x203)
   with 61440K/4096K bytes of memory.
Processor board ID JAD04370EEG (2285146560)
M860 processor: part number 0, mask 49
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
2 Ethernet/IEEE 802.3 interface(s)
1 Serial network interface(s)
32K bytes of non−volatile configuration memory.
16384K bytes of processor board System flash (Read/Write)

Configuration register is 0x2102
```

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Background Theory

This document shows authentication and authorization, such as assigning the Windows Internet Naming Service (WINS) and Domain Naming Service (DNS), by the RADIUS server. If you are interested in performing authentication by the RADIUS server and authorization locally by the router, refer to Configuring IPSec Between a Cisco IOS Router and a Cisco VPN Client 4.x for Windows using RADIUS for User Authentication.

Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to find more information on the commands used in this document.
Network Diagram

This document uses this network setup:

Note: The IP addresses in this example network are not routable in the global Internet because they are private IP addresses in a lab network.

Configurations

<table>
<thead>
<tr>
<th>2611 Router</th>
</tr>
</thead>
</table>

```
vpn2611#show run
Building configuration...

Current configuration : 1884 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname vpn2611
!

!--- Enable 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" specifies RADIUS user authentication.

aaa authentication login userauthen group radius

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

aaa authorization network groupauthor group radius
!
!
ip subnet-zero
```
ip audit notify log
ip audit po max-events 100

!--- 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 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
!
!
fax interface-type fax-mail
mta receive maximum-recipients 0
!
!

!--- 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 Serial0/0
  no ip address
  shutdown
!
interface Ethernet0/1
  ip address 172.18.124.159 255.255.255.0
  no keepalive
  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
!

!--- Create an access control list (ACL) if you want to do split tunneling.
!--- This ACL is referenced in the RADIUS profile.

access-list 108 permit ip 172.18.124.0 0.0.255.255 10.16.20.0 0.0.0.255
!

!--- 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
call rsvp-sync
!
!
mgcp profile default
!
dial-peer cor custom
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2. Specify the IP address of the router "172.18.124.159" along with the shared secret key "cisco123" and choose RADIUS in the Authenticate Using drop-down box.

Configure the RADIUS Server for Group Authentication and Authorization

Complete these steps:

1. Click Add/Edit to add a User named 3000client to the RADIUS server.

2. Specify the password cisco for this user.

This password is a special keyword for Cisco IOS, which indicates a group profile must be referenced. You can map the user to a Cisco Secure group if you prefer. Make sure that No IP address assignment is chosen.
3. Specify the group authorization parameters that will be passed down by this user account back to the VPN Client.

Make sure you have `cisco-av-pair` enabled with these attributes:

- `ipsec:key-exchange=ike`
- `ipsec:key-exchange=preshared-key`
- `ipsec:addr-pool=ippool`
- `ipsec:inacl=108` (only needed if you use split tunneling on the router)

Also, make sure that you have these IETF RADIUS Attributes enabled:

- Attribute 6: Service-Type=Outbound
- Attribute 64: Tunnel-Type=IP ESP
- Attribute 69: Tunnel-Password=cisco123 (this is your group password on the VPN Client)
Once you have finished, click **Submit**.

Under Vendor Specific Attributes, you can also enable these optional attributes:

- `ipsec:default-domain=`
- `ipsec:timeout=`
- `ipsec:idletime=`
- `ipsec:dns-servers=`
- `ipsec:wins-servers=`

**Configure the RADIUS Server for User Authentication**

Complete these steps:

1. Click **Add/Edit** to add the VPN user in the Cisco Secure database.
In this example, the username is cisco.

2. On the next window, specify the password for the user cisco. The password is also cisco.

You can map the user account to a group. Once you have finished, click Submit.

**VPN Client 4.8 Configuration**

Complete these steps in order to configure the VPN Client 4.8:

1. Choose **Start > Programs > Cisco Systems VPN Client > VPN Client**.
2. Click New to launch the Create New VPN Connection Entry window.
3. Enter the name of the Connection Entry along with a description. Enter the outside IP address of the router in the Host box. Then, enter the VPN Group name and password and click **Save**.

4. Click on the connection you want to use and click **Connect** from the VPN Client main window.
5. When prompted, enter the Username and Password information for xauth and click **OK** to connect to the remote network.

The VPN Client gets connected with the router at the central site.
Verify

Use this section to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain `show` commands. Use the OIT to view an analysis of `show` command output.

```
vpn2611#show crypto isakmp sa
  dst            src            state          conn-id  slot
  10.1.1.1  10.0.0.1            QM_IDLE        3       0

vpn2611#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:

---

vpn2611# show crypto engine connections active

<table>
<thead>
<tr>
<th>ID</th>
<th>Interface</th>
<th>IP-Address</th>
<th>State</th>
<th>Algorithm</th>
<th>Encrypt</th>
<th>Decrypt</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Ethernet0/0</td>
<td>10.1.1.1</td>
<td>set</td>
<td>HMAC_SHA+3DES_56_C</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>Ethernet0/0</td>
<td>10.1.1.1</td>
<td>set</td>
<td>HMAC_SHA+3DES_56_C</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>2001</td>
<td>Ethernet0/0</td>
<td>10.1.1.1</td>
<td>set</td>
<td>HMAC_SHA+3DES_56_C</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>Ethernet0/0</td>
<td>10.1.1.1</td>
<td>set</td>
<td>HMAC_SHA+3DES_56_C</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2003</td>
<td>Ethernet0/0</td>
<td>10.1.1.1</td>
<td>set</td>
<td>HMAC_SHA+3DES_56_C</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Troubleshoot

Use this section to troubleshoot your configuration.

Troubleshooting Commands

The Output Interpreter Tool (registered customers only) (OIT) supports certain show commands. Use the OIT to view an analysis of show command output.

Note: Refer to Important Information on Debug Commands before you use debug commands.

- **debug crypto ipsec** Displays debug information about IPSec connections.
- **debug crypto isakmp** Displays debug information about IPSec connections, and shows the first set of attributes that are denied due to incompatibilities on both ends.
- **debug crypto engine** Displays information from the crypto engine.
- **debug aaa authentication** Displays information on AAA/TACACS+ authentication.
- **debug aaa authorization radius** Displays information on AAA/TACACS+ authorization.
- **debug radius** Displays information on troubleshooting communication between the RADIUS server and the router.

Debug Output

This section provides debug information from the router that you can use to troubleshoot your configuration.

Router Logs

vpn2611# show debug
General OS:
AAA Authorization debugging is on
Radius protocol debugging is on
Radius packet protocol debugging is on

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

vpn2611#

1w0d: ISAKMP (0:0): received packet from 10.0.0.1 (N) NEW SA
1w0d: ISAKMP: local port 500, remote port 500
1w0d: ISAKMP (0:2): (Re)Setting client xauth list userauthen and state
1w0d: ISAKMP: Locking CONFIG struct 0x830BF118 from
crypto_ikmp_config_initialize_sa, count 2
1w0d: ISAKMP (0:2): processing SA payload. message ID = 0
1w0d: ISAKMP (0:2): processing ID payload. message ID = 0
1w0d: ISAKMP (0:2): processing vendor id payload
1w0d: ISAKMP (0:2): vendor ID seems Unity/DPD but bad major
1w0d: ISAKMP (0:2): vendor ID is XAUTH
1w0d: ISAKMP (0:2): processing vendor id payload
1w0d: ISAKMP (0:2): vendor ID is DPD
1w0d: ISAKMP (0:2): processing vendor id payload
1w0d: ISAKMP (0:2): vendor ID is Unity
1w0d: ISAKMP (0:2): Checking ISAKMP transform 1 against priority 3 policy
1w0d: ISAKMP: encryption 3DES-CBC
1w0d: ISAKMP: hash SHA
1w0d: ISAKMP: default group 2
1w0d: ISAKMP: auth XAUTHInitPreShared
1w0d: ISAKMP: life type in seconds
1w0d: ISAKMP: life duration (VPI) of 0x0 0x20 0xC4 0x9B
1w0d: ISAKMP (0:2): atts are acceptable. Next payload is 3
1w0d: ISAKMP (0:2): processing KE payload. message ID = 0
1w0d: ISAKMP (0:2): processing NONCE payload. message ID = 0
1w0d: ISAKMP (0:2): processing vendor id payload
1w0d: ISAKMP (0:2): processing vendor id payload
1w0d: AAA: parse name=ISAKMP-ID-AUTH idb type=-1 tty=-1
1w0d: AAA/MEMORY: create_user (0x830CAF28) 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'
1w0d: ISAKMP (0:2): Input = IKE_MESG_FROM_PEER, IKE_AM_EXCH
Old State = IKE_READY New State = IKE_R_AM_AWAIT

1w0d: ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(66832552):
Port='ISAKMP-ID-AUTH' list='groupauthor' service=NET
1w0d: AAA/AUTHOR/CRYPTO AAA: ISAKMP-ID-AUTH(66832552) user='3000client'
1w0d: ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(66832552): send AV service=ike
1w0d: ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(66832552): send AV
protocol=ipsec
1w0d: ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(66832552): found list
"groupauthor"
1w0d: ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(66832552): Method=radius
(radius)
1w0d: RADIUS: authenticating to get author data
1w0d: RADIUS: ustruct sharecount=3
1w0d: RADIUS: radius_port_info() success=0 radius_nas_port=1
1w0d: RADIUS: Send to ISAKMP-ID-AUTH id 60 172.18.124.96:1645,
Access-Request, len 83
1w0d: RADIUS: authenticator AF EC D3 AD D6 39 4F 7D - A0 5E FC 64 F5 DE
A7 3B
1w0d: RADIUS: NAS-IP-Address [4] 6 172.18.124.159
1w0d: RADIUS: NAS-Port-Type [61] 6 Async [0]
1w0d: RADIUS: User-Name [1] 12 "3000client"
1w0d: RADIUS: Calling-Station-Id [31] 15 "10.0.0.1"
1w0d: RADIUS: User-Password [2] 18 *
1w0d: RADIUS: Received from id 60 172.18.124.96:1645, Access-Accept, len
176
1w0d: RADIUS: authenticator 52 BA 0A 38 AC C2 2B 6F - A0 77 64 93 D6 19
78 CF
1w0d: RADIUS: Vendor, Cisco [26] 30
1w0d: RADIUS: Cisco AvPair [1] 24 "ipsec:key-exchange=ike"
1w0d: RADIUS: Vendor, Cisco [26] 40
1w0d: RADIUS: Cisco AvPair [1] 34 "ipsec:key-exchange=preshared-key"
1w0d: RADIUS: Vendor, Cisco [26] 30
1w0d: RADIUS: Cisco AvPair [1] 24 "ipsec:addr-pool=ippool"
1w0d: RADIUS: Vendor, Cisco [26] 23
1w0d: RADIUS: Cisco AvPair [1] 17 "ipsec:inacl=108"
1w0d: RADIUS: Tunnel-Type [64] 6 01:ESP [9]
1w0d: RADIUS: Tunnel-Password [69] 21 *
1w0d: RADIUS: saved authorization data for user 830CAF28 at 83198648
1w0d: RADIUS: cisco AVPair "ipsec:key-exchange=ike"
1w0d: RADIUS: cisco AVPair "ipsec:key-exchange=preshared-key"
1w0d: RADIUS: cisco AVPair "ipsec:addr-pool=ippool"
1w0d: RADIUS: cisco AVPair "ipsec:inacl=108"
1w0d: RADIUS: Tunnel-Type, [01] 00 00 09
1w0d: RADIUS: TAS(1) created and enqueued.
1w0d: RADIUS: Tunnel-Password decrypted, [01] cisco123
1w0d: RADIUS: TAS(1) takes precedence over tagged attributes,
tunnel_type=esp
1w0d: RADIUS: free TAS(1)
1w0d: AAA/AUTHOR (66832552): Post authorization status = PASS_REPL
1w0d: ISAKMP: got callback 1
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
AAA/AUTHOR/IKE: Processing AV key-exchange=preshared-key
AAA/AUTHOR/IKE: Processing AV addr-pool=ippool
AAA/AUTHOR/IKE: Processing AV inac1=108
AAA/AUTHOR/IKE: Processing AV tunnel-type*esp
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
AAA/AUTHOR/IKE: Processing AV tunnel-tag*1
lw0d: ISAKMP (0:2): SKEYID state generated
lw0d: ISAKMP (0:2): SA is doing pre-shared key authentication plus XAUTH
   using id type ID_IPV4_ADDR
lw0d: ISAKMP (2): ID payload
next-payload : 10
   type : 1
   protocol : 17
   port : 500
   length : 8
lw0d: ISAKMP (2): Total payload length: 12
lw0d: ISAKMP (0:2): sending packet to 10.0.0.1 (R) AG_INIT_EXCH
lw0d: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, PRESHARED_KEY_REPLY
   Old State = IKE_R_AM_AAA_AWAIT New State = IKE_R_AM2
lw0d: AAA/MEMORY: free_user (0x830CAF28) user='3000client' ruser='NULL'
   port='ISAKMP−ID−AUTH' rem_addr='10.0.0.1' authen_type=NONE
   service=LOGIN priv=0
lw0d: ISAKMP (0:2): received packet from 10.0.0.1 (R) AG_INIT_EXCH
lw0d: ISAKMP (0:2): processing HASH payload. message ID = 0
lw0d: ISAKMP (0:2): processing NOTIFY INITIAL_CONTACT protocol 1
   spi 0, message ID = 0, sa = 831938B0
lw0d: ISAKMP (0:2): Process initial contact, bring down existing phase 1 and 2 SA’s
lw0d: ISAKMP (0:2): returning IP addr to the address pool: 10.16.20.1
lw0d: ISAKMP (0:2): returning address 10.16.20.1 to pool
lw0d: ISAKMP (0:2): peer does not do paranoid keepalives.

lw0d: ISAKMP (0:2): SA has been authenticated with 10.0.0.1
lw0d: ISAKMP (0:2): sending packet to 10.0.0.1 (R) QM_IDLE
lw0d: ISAKMP (0:2): returning node −1377537628
lw0d: ISAKMP: Sending phase 1 responder lifetime 86400

lw0d: ISAKMP (0:2): Input = IKE_MESG_FROM_PEER, IKE_AM_EXCH
   Old State = IKE_R_AM2 New State = IKE_P1_COMPLETE
lw0d: IPSEC(key_engine): got a queue event...
lw0d: IPSEC(key_engine_delete_sas): rec'd delete notify from ISAKMP
lw0d: IPSEC(key_engine_delete_sas): delete all SAs shared with
   10.0.0.1
lw0d: ISAKMP (0:2): Need XAUTH
lw0d: AAA: parse name=ISAKMP idb type=-1 tty=-1
lw0d: AAA/MEMORY: create_user (0x830CAF28) 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'
lw0d: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, IKE_PHASE1_COMPLETE
   Old State = IKE_P1_COMPLETE New State = IKE_XAUTH_AAA_START_LOGIN_AWAIT
lw0d: ISAKMP: got callback 1
lw0d: ISAKMP/xauth: request attribute XAUTH_TYPE_V2
lw0d: ISAKMP/xauth: request attribute XAUTH_MESSAGE_V2
lw0d: ISAKMP/xauth: request attribute XAUTH_USER_NAME_V2
lw0d: ISAKMP/xauth: request attribute XAUTH_USER_PASSWORD_V2
lw0d: ISAKMP (0:2): initiating peer config to 10.0.0.1. ID = -1021889193
lw0d: ISAKMP (0:2): sending packet to 10.0.0.1 (R) CONF_XAUTH
lw0d: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, IKE_AAA_START_LOGIN
   Old State = IKE_XAUTH_AAA_START_LOGIN_AWAIT New State =
   IKE_XAUTH_REQ_SENT
lw0d: ISAKMP (0:1): purging node 832238598
lw0d: ISAKMP (0:1): purging node 1913225491
lw0d: ISAKMP (0:2): received packet from 10.0.0.1 (R) CONF_XAUTH
1w0d: ISAKMP (0:2): processing transaction payload from 10.0.0.1.
message ID = -1021889193
1w0d: ISAKMP: Config payload REPLY
1w0d: ISAKMP/xauth: reply attribute XAUTH_TYPE_V2 unexpected
1w0d: ISAKMP/xauth: reply attribute XAUTH_USER_NAME_V2
1w0d: ISAKMP/xauth: reply attribute XAUTH_USER_PASSWORD_V2
1w0d: ISAKMP (0:2): deleting node -1021889193 error FALSE reason "done with xauth request/reply exchange"
1w0d: ISAKMP (0:2): Input = IKE_MESG_FROM_PEER, IKE_CFG_REPLY
Old State = IKE_XAUTH_REQ_SENT  New State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT

1w0d: RADIUS: ustruct sharecount=2
1w0d: Radius: radius_port_info() success=0 radius_nas_port=1
1w0d: RADIUS: Send to ISAKMP id 61 172.18.124.96:1645, Access-Request, len 72
1w0d: RADIUS: authenticator 98 12 4F C0 DA B9 48 B8 - 58 00 BA 14 08 8E 87 C0
1w0d: RADIUS: NAS-IP-Address [4] 6 172.18.124.159
1w0d: RADIUS: NAS-Port-Type [61] 6 Async [0]
1w0d: RADIUS: User-Name [1] 7 "cisco"
1w0d: RADIUS: Calling-Station-Id [31] 15 "10.0.0.1"
1w0d: RADIUS: User-Password [2] 18 *
1w0d: RADIUS: Received from id 61 172.18.124.96:1645, Access-Accept, len 26
1w0d: RADIUS: authenticator 00 03 F4 E1 9C 61 3F 03 - 54 83 E8 27 5C 6A 7B 6E
1w0d: RADIUS: Framed-IP-Address [8] 6 255.255.255.255
1w0d: RADIUS: saved authorization data for user 830CAF28 at 830F89F8
1w0d: ISAKMP: got callback 1
1w0d: ISAKMP (0:2): initiating peer config to 10.0.0.1. ID = -547189328
1w0d: ISAKMP (0:2): sending packet to 10.0.0.1 (R) CONF_XAUTH
1w0d: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, IKE_AAA_CONT_LOGIN
Old State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT New State = IKE_XAUTH_SET_SENT

1w0d: AAA/MEMORY: free_user (0x830CAF28) user='cisco' ruser='NULL' port='ISAKMP' rem_addr='10.0.0.1' authen_type=ASCII service=LOGIN priv=0
1w0d: ISAKMP (0:2): received packet from 10.0.0.1 (R) CONF_XAUTH
1w0d: ISAKMP (0:2): processing transaction payload from 10.0.0.1.
message ID = -547189328
1w0d: ISAKMP: Config payload ACK
1w0d: ISAKMP (0:2): XAUTH ACK Processed
1w0d: ISAKMP (0:2): deleting node -547189328 error FALSE reason "done with transaction"
1w0d: ISAKMP (0:2): Input = IKE_MESG_FROM_PEER, IKE_CFG_ACK
Old State = IKE_XAUTH_SET_SENT New State = IKE_P1_COMPLETE

1w0d: ISAKMP (0:2): Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE
Old State = IKE_P1_COMPLETE New State = IKE_P1_COMPLETE

1w0d: ISAKMP (0:2): received packet from 10.0.0.1 (R) QM_IDLE
1w0d: ISAKMP (0:2): processing transaction payload from 10.0.0.1.
message ID = -1911189201
1w0d: ISAKMP: Config payload REQUEST
1w0d: ISAKMP (0:2): checking request:
1w0d: ISAKMP: IP4_ADDRESS
1w0d: ISAKMP: IP4_NETMASK
1w0d: ISAKMP: IP4_DNS
1w0d: ISAKMP: IP4_NBNS
1w0d: ISAKMP: ADDRESS_EXPIRY
1w0d: ISAKMP: APPLICATION_VERSION
1w0d: ISAKMP: UNKNOWN Unknown Attr: 0x7000
1w0d: ISAKMP: UNKNOWN Unknown Attr: 0x7001
1w0d: ISAKMP: DEFAULT_DOMAIN
1w0d: ISAKMP: SPLIT_INCLUDE
1w0d: ISAKMP: UNKNOWN Unknown Attr: 0x7007
1w0d: ISAKMP: UNKNOWN Unknown Attr: 0x7008
lwn0d: ISAKMP: UNKNOWN Unknown Attr: 0x7005
lwn0d: AAA: parse name=ISAKMP-GROUP-AUTH idb_type=-1 tty=-1
lwn0d: AAA/MEMORY: create_user (0x830CAF28) 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'
lwn0d: ISAKMP (0:2): Input = IKE_MSG_FROM_PEER, IKE_CFG_REQUEST
Old State = IKE_P1_COMPLETE New State = IKE_CONFIG_AUTHOR_AAA_AWAIT

lwn0d: ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3098118746):
Port='ISAKMP-GROUP-AUTH' list='groupauthor' service=NET
lwn0d: AAA/AUTHOR/CRYPTO AAA: ISAKMP-GROUP-AUTH(3098118746)
user='3000client'
lwn0d: ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3098118746): send AV
service=ike
lwn0d: ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3098118746): send AV
protocol=ipsec
lwn0d: ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3098118746): found list
"groupauthor"
lwn0d: ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3098118746): Method=radius (radius)
lwn0d: RADIUS: authenticating to get author data
lwn0d: RADIUS: ustruct sharecount=3
lwn0d: Radius: radius_port_info() success=0 radius_nas_port=1
lwn0d: RADIUS: Send to ISAKMP-GROUP-AUTH id 62 172.18.124.96:1645,
Access-Request, len 83
lwn0d: RADIUS: authenticator 32 C5 32 FF AB B7 E4 − 9A 68 5A DE D5 56
0C BE
lwn0d: RADIUS: NAS-Port-Type [61] 6 Async [0]
lwn0d: RADIUS:_User-Name [1] 12 "3000client"
lwn0d: RADIUS: Calling-Station-Id [31] 15 "10.0.0.1"
lwn0d: RADIUS: User-Password [2] 18 *
lwn0d: RADIUS: Received from id 62 172.18.124.96:1645, Access-Accept, len
176
lwn0d: RADIUS: authenticator DF FA FE 21 07 92 4F 10 − 75 5E D6 96 66 70
19 27
lwn0d: RADIUS: Vendor, Cisco [26] 30
lwn0d: RADIUS: Cisco AVPair [1] 24 "ipsec:key-exchange=ike"
lwn0d: RADIUS: Vendor, Cisco [26] 40
lwn0d: RADIUS: Cisco AVPair [1] 34 "ipsec:key-exchange=preshared-key"
lwn0d: RADIUS: Vendor, Cisco [26] 30
lwn0d: RADIUS: Cisco AVPair [1] 24 "ipsec:addr-pool=ippool"
lwn0d: RADIUS: Vendor, Cisco [26] 23
lwn0d: RADIUS: Cisco AVPair [1] 17 "ipsec:inacl=108"
lwn0d: RADIUS: Tunnel-Type [64] 6 01:ESP [9]
lwn0d: RADIUS: Tunnel-Password [69] 21 *
lwn0d: RADIUS: Tunnel-Type, [01] 00 00 09
lwn0d: RADIUS: saved authorization data for user 830CAF28 at 83143E64
lwn0d: RADIUS: Cisco AVPair "ipsec:key-exchange=ike"
lwn0d: RADIUS: Cisco AVPair "ipsec:key-exchange=preshared-key"
lwn0d: RADIUS: Cisco AVPair "ipsec:addr-pool=ippool"
lwn0d: RADIUS: Cisco AVPair "ipsec:inacl=108"
lwn0d: RADIUS: Tunnel-Type, [01] 00 00 09
lwn0d: RADIUS: TAS(1) created and enqueued.
lwn0d: RADIUS: Tunnel-Password decrypted, [01] cisco123
lwn0d: RADIUS: TAS(1) takes precedence over tagged attributes,
tunnel_type=esp
lwn0d: RADIUS: free TAS(1)
lwn0d: AAA/AUTHOR (3098118746): Post authorization status = PASS_REPL
lwn0d: ISAKMP: got callback 1
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
AAA/AUTHOR/IKE: Processing AV key-exchange=preshared-key
AAA/AUTHOR/IKE: Processing AV addr-pool=ippool
AAA/AUTHOR/IKE: Processing AV inacl=108
AAA/AUTHOR/IKE: Processing AV tunnel-type*esp
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
AAA/AUTHOR/IKE: Processing AV tunnel-tag*1
1w0d: ISAKMP (0:2): attributes sent in message:
1w0d: Address: 0.2.0.0
1w0d: ISAKMP (0:2): allocating address 10.16.20.2
1w0d: ISAKMP: Sending private address: 10.16.20.2
1w0d: ISAKMP: Unknown Attr: IP4_NETMASK (0x2)
1w0d: ISAKMP: Sending ADDRESS_EXPIRY seconds left to use the address: 86395
1w0d: ISAKMP: Sending APPLICATION_VERSION string: Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600-JK903S-M), Version 12.2(8)T, RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Thu 14-Feb-02 16:50 by ccai
1w0d: ISAKMP: Unknown Attr: UNKNOWN (0x7000)
1w0d: ISAKMP: Unknown Attr: UNKNOWN (0x7001)
1w0d: ISAKMP: Sending split include name 108 network 14.38.0.0 mask 255.255.0.0 protocol 0, src port 0, dst port 0
1w0d: ISAKMP: Unknown Attr: UNKNOWN (0x7007)
1w0d: ISAKMP: Unknown Attr: UNKNOWN (0x7008)
1w0d: ISAKMP: Unknown Attr: UNKNOWN (0x7005)
1w0d: ISAKMP (0:2): responding to peer config from 10.0.0.1. ID = -1911189201
1w0d: ISAKMP (0:2): sending packet to 10.0.0.1 (R) CONF_ADDR
1w0d: ISAKMP (0:2): deleting node -1911189201 error FALSE reason ""
Old State = IKE_CONFIG_AUTHOR_AAA_AWAIT New State = IKE_P1_COMPLETE
1w0d: AAA/MEMORY: free_user (0x830CAF28) user='3000client' ruser='NULL' port='ISAKMP-GROUP-AUTH' rem_addr='10.0.0.1' authen_type=NONE service=LOGIN priv=0
1w0d: ISAKMP (0:2): received packet from 10.0.0.1 (R) QM_IDLE
1w0d: ISAKMP (0:2): processing HASH payload. message ID = 132557281
1w0d: ISAKMP (0:2): processing SA payload. message ID = 132557281
1w0d: ISAKMP (0:2): Checking IPSec proposal 1
1w0d: ISAKMP: transform 1, ESP_3DES
1w0d: ISAKMP: attributes in transform:
1w0d: ISAKMP: authenticator is HMAC-MD5
1w0d: ISAKMP: encaps is 1
1w0d: ISAKMP: SA life type in seconds
1w0d: ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
1w0d: IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported
1w0d: ISAKMP (0:2): atts not acceptable. Next payload is 0
1w0d: ISAKMP (0:2): skipping next ANDed proposal (1)
1w0d: ISAKMP (0:2): Checking IPSec proposal 2
1w0d: ISAKMP: transform 1, ESP_3DES
1w0d: ISAKMP: attributes in transform:
1w0d: ISAKMP: authenticator is HMAC-SHA
1w0d: ISAKMP: encaps is 1
1w0d: ISAKMP: SA life type in seconds
1w0d: ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
1w0d: ISAKMP (0:2): atts are acceptable.
1w0d: ISAKMP (0:2): Checking IPSec proposal 2
1w0d: ISAKMP (0:2): transform 1, IPPCP LZS
1w0d: ISAKMP: attributes in transform:
1w0d: ISAKMP: encaps is 1
1w0d: ISAKMP: SA life type in seconds
1w0d: ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
1w0d: IPSEC(validate_proposal): transform proposal (prot 4, trans 3, hmac_alg 0) not supported
1w0d: ISAKMP (0:2): atts not acceptable. Next payload is 0
lwd: ISAKMP (0:2): Checking IPSec proposal 3
lwd: ISAKMP: transform 1, ESP_3DES
lwd: ISAKMP: attributes in transform:
lwd: ISAKMP: authenticator is HMAC-MD5
lwd: ISAKMP: encaps is 1
lwd: ISAKMP: SA life type in seconds
lwd: ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
lwd: IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported
lwd: ISAKMP (0:2): atts not acceptable. Next payload is 0
lwd: ISAKMP (0:2): Checking IPSec proposal 4
lwd: ISAKMP: transform 1, ESP_3DES
lwd: ISAKMP: attributes in transform:
lwd: ISAKMP: authenticator is HMAC-SHA
lwd: ISAKMP: encaps is 1
lwd: ISAKMP: SA life type in seconds
lwd: ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
lwd: ISAKMP (0:2): atts are acceptable.
lwd: 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= 10.16.20.2/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp−3des esp−sha−hmac,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4
lwd: ISAKMP (0:2): processing NONCE payload. message ID = 132557281
lwd: ISAKMP (0:2): processing ID payload. message ID = 132557281
lwd: ISAKMP (0:2): processing ID payload. message ID = 132557281
lwd: ISAKMP (0:2): asking for 1 spis from ipsec
lwd: ISAKMP (0:2): Node 132557281, Input = IKE_MESG_FROM_PEER,
  IKE_QM_EXCH
Old State = IKE_QM_READY New State = IKE_QM_SPI_STARVE

lwd: IPSEC(key_engine): got a queue event...
lwd: IPSEC(spi_response): getting spi 245824456 for SA
  from 10.1.1.1 to 10.0.0.1 for prot 3
lwd: ISAKMP: received ke message (2/1)
lwd: ISAKMP (0:2): sending packet to 10.0.0.1 (R) QM_IDLE
lwd: ISAKMP (0:2): Node 132557281, Input = IKE_MESG_FROM_IPSEC,
  IKE_SPI_REPLY
Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2

lwd: ISAKMP (0:2): received packet from 10.0.0.1 (R) QM_IDLE
lwd: ISAKMP (0:2): Creating IPSec SAs
lwd: inbound SA from 10.0.0.1 to 10.1.1.1
  (proxy 10.16.20.2 to 10.1.1.1)
lwd: has spi 0xEA6FBC8 and conn_id 2000 and flags 4
lwd: lifetime of 2147483 seconds
lwd: outbound SA from 10.1.1.1 to 10.0.0.1 (proxy
  10.1.1.1 to 10.16.20.2)
lwd: has spi 1009463339 and conn_id 2001 and flags C
lwd: lifetime of 2147483 seconds
lwd: ISAKMP (0:2): deleting node 132557281 error FALSE reason "quick mode
done (await())"
lwd: ISAKMP (0:2): Node 132557281, Input = IKE_MESG_FROM_PEER,
  IKE_QM_EXCH
Old State = IKE_QM_R_QM2 New State = IKE_QM_PHASE2_COMPLETE

lwd: IPSEC(key_engine): got a queue event...
lwd: IPSEC(initialize_sas):,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 10.1.1.1/0.0.0.0/0/0 (type=1),
  remote_proxy= 10.16.20.2/0.0.0.0/0/0 (type=1),
  protocol= ESP, transform= esp−3des esp−sha−hmac,
  lifedur= 2147483s and 0kb,
  spi= 0xEA6FBC8(245824456), conn_id= 2000, keysize= 0, flags= 0x4
l0w0d: IPSEC(initialize_sas): ,
(key eng. msg.) OUTBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/0.0.0.0/0/0 (type=1),
remote_proxy= 10.16.20.2/0.0.0.0/0/0 (type=1),
protocol= ESP, transform= esp-3des esp-sha-hmac ,
lifeur= 2147483s and 0kb,
spi= 0x3C2B302B(1009463339), conn_id= 2001, keysize= 0, flags= 0xC
l0w0d: IPSEC(create_sa): sa created,
(sa) sa_dest= 10.1.1.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
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(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
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(sa) sa_dest= 10.0.0.1, sa_prot= 50,
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(sa) sa_dest= 10.0.0.1, sa_prot= 50,
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(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
(sa) sa_dest= 10.0.0.1, sa_prot= 50,
ISAKMP: encaps is 1
ISAKMP: SA life type in seconds
ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
ISAKMP (0:2): atts are acceptable.
IPSEC(validate_proposal_request): proposal part #
vpn2611#1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 14.38.0.0/255.255.0.0/0/0 (type=4),
remote_proxy= 10.16.20.2/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp−3des esp−sha−hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4
ISAKMP (0:2): processing NONCE payload. message ID = −1273332908
ISAKMP (0:2): processing ID payload. message ID = −1273332908
ISAKMP (0:2): processing ID payload. message ID = −1273332908
ISAKMP (0:2): Node −1273332908, Input = IKE_MESG_FROM_PEER,
IKE_QM_EXCH
Old State = IKE_QM_READY New State = IKE_QM_SPI_STARVE
IPSEC(key_engine): got a queue event...
IPSEC(spi_response): getting spi 593097454 for SA from 10.1.1.1 to 10.0.0.1
vpn2611#
vpn2611#2 for prot 3
ISAKMP: received ke message (2/1)
ISAKMP (0:2): sending packet to 10.0.0.1 (R) QM_IDLE
ISAKMP (0:2): Node −1273332908, Input = IKE_MESG_FROM_IPSEC,
IKE_SPI_REPLY
Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2
ISAKMP (0:2): received packet from 10.0.0.1 (R) QM_IDLE
ISAKMP (0:2): Creating IPSec SAs
inbound SA from 10.0.0.1 to 10.1.1.1
(proxy 10.16.20.2 to 14.38.0.0)
has spi 0x2359F2EE and conn_id 2002 and flags 4
lifetime of 2147483 seconds
outbound SA from 10.1.1.1 to 10.0.0.1 (proxy
14.38.0.0 to 10.16.20.2 )
has spi 1123818858 and conn_id 2003 and flags C
lifetime of 2147483 seconds
ISAKMP (0:2): deleting node −1273332908 erro
un ar FALSE reason "quick mode done (await())"
ISAKMP (0:2): Node −1273332908, Input = IKE_MESG_FROM_PEER,
IKE_QM_EXCH
Old State = IKE_QM_R_QM2 New State = IKE_QM_PHASE2_COMPLETE
IPSEC(key_engine): got a queue event...
IPSEC(initialize_sas): ,
(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= 16.20.2/0.0.0.0/0/0 (type=1),
protocol= ESP, transform= esp−3des esp−sha−hmac ,
lifedur= 2147483s and 0kb,
spi= 0x2359F2EE(593097454), conn_id= 2002, keysize= 0, flags= 0x4
IPSEC(initialize_sas): ,
(key eng. msg.) OUTBOUND 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= 16.20.2/0.0.0.0/0/0 (type=1),
protocol= ESP, transform= esp−3des esp−sha−hmac
All possible debugging has been turned off
vpn2611#a−hmac ,
lifedur= 2147483s and 0kb,
spi= 0x42FC1D6A(1123818858), conn_id= 2003, keysize= 0, flags= 0xC
IPSEC(create_sa): sa created,
(sa) sa_dest= 10.1.1.1, sa_prot= 50,
Client Logs

Launch the LogViewer on the VPN Client in order to view the logs. Make sure that the filter is set to High for all the configured classes. This is a sample log output:

1 16:48:10.203 03/05/02 Sev=Info/6 DIALER/0x63300002
   Initiating connection.

2 16:48:10.203 03/05/02 Sev=Info/4 CM/0x63100002
   Begin connection process

3 16:48:10.223 03/05/02 Sev=Info/4 CM/0x63100004
   Establish secure connection using Ethernet

4 16:48:10.223 03/05/02 Sev=Info/4 CM/0x63100026
   Attempt connection with server "10.1.1.1"

5 16:48:10.223 03/05/02 Sev=Info/6 IKE/0x6300003B
   Attempting to establish a connection with 10.1.1.1.

6 16:48:10.273 03/05/02 Sev=Info/4 IKE/0x63000013
   SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID, VID, VID) to 10.1.1.1

7 16:48:10.273 03/05/02 Sev=Info/4 IPSEC/0x63700014
   Deleted all keys

8 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x6300002F
   Received ISAKMP packet: peer = 10.1.1.1

9 16:48:10.994 03/05/02 Sev=Info/4 IKE/0x63000014
   RECEIVING << ISAKMP OAK AG (SA, VID, VID, VID, KE, ID, NON, HASH) from 10.1.1.1

10 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000059
    Vendor ID payload = 12F5F28C457168A9702D9FE274CC0100

11 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000001
    Peer is a Cisco-Unity compliant peer

12 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000059
    Vendor ID payload = AFCAD71368A1F6B8696FC77570100

13 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000001
    Peer supports DPD

14 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000059
    Vendor ID payload = 2D275A044215F48F531958AB2578EB2D

15 16:48:10.994 03/05/02 Sev=Info/5 IKE/0x63000059
    Vendor ID payload = 09002689DF0D6B712

16 16:48:11.045 03/05/02 Sev=Info/4 IKE/0x63000013
   SENDING >>> ISAKMP OAK AG *(HASH, NOTIFY:STATUS_INITIAL_CONTACT) to 10.1.1.1

17 16:48:11.045 03/05/02 Sev=Info/5 IKE/0x6300002F
   Received ISAKMP packet: peer = 10.1.1.1

18 16:48:11.045 03/05/02 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:STATUS_RESP_LIFETIME) from 10.1.1.1

19 16:48:11.045 03/05/02 Sev=Info/5 IKE/0x63000044
RESPONDER−LIFETIME notify has value of 86400 seconds

20 16:48:11.045 03/05/02 Sev=Info/5 IKE/0x63000046
This SA has already been alive for 1 seconds, setting expiry to 86399 seconds from now

21 16:48:11.075 03/05/02 Sev=Info/5 IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

22 16:48:11.075 03/05/02 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

23 16:48:11.075 03/05/02 Sev=Info/4 CM/0x63100015
Launch xAuth application

24 16:48:14.920 03/05/02 Sev=Info/4 CM/0x63100017
xAuth application returned

25 16:48:14.920 03/05/02 Sev=Info/4 IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

26 16:48:14.990 03/05/02 Sev=Info/5 IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

27 16:48:14.990 03/05/02 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

28 16:48:14.990 03/05/02 Sev=Info/4 CM/0x6310000E
Established Phase 1 SA. 1 Phase 1 SA in the system

29 16:48:15.000 03/05/02 Sev=Info/4 IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

30 16:48:15.010 03/05/02 Sev=Info/5 IKE/0x6300005D
Client sending a firewall request to concentrator

31 16:48:15.010 03/05/02 Sev=Info/5 IKE/0x6300005C
Firewall Policy: Product=Cisco Integrated Client,
Capability= (Centralized Policy Push).

32 16:48:15.010 03/05/02 Sev=Info/4 IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 10.1.1.1

33 16:48:15.141 03/05/02 Sev=Info/5 IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

34 16:48:15.141 03/05/02 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 10.1.1.1

35 16:48:15.141 03/05/02 Sev=Info/5 IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_ADDRESS: , value = 10.16.20.2

36 16:48:15.141 03/05/02 Sev=Info/5 IKE/0xA3000017
MODE_CFG_REPLY: The received (INTERNAL_ADDRESS_EXPIRY) attribute and value
(86395) is not supported

37 16:48:15.141 03/05/02 Sev=Info/5 IKE/0x6300000E
MODE_CFG_REPLY: Attribute = APPLICATION_VERSION, value = Cisco Internetwork
Operating System Software IOS (tm) C2600 Software (C2600−JK903S−M),
Version 12.2(8)T, RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986−2002 by cisco Systems, Inc.
MME 0x63000005
SPLIT_NET #1
subnet = 172.18.124.0
mask = 255.255.255.0
protocol = 0
src port = 0
dest port = 0

MME 0x6300000F
SPLIT_NET #1
subnet = 172.18.124.0
mask = 255.255.255.0
protocol = 0
src port = 0
dest port = 0

MME 0x63000055
Received a key request from Driver for IP address 10.1.1.1,
GW IP = 10.1.1.1

MME 0x63000014
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 10.1.1.1

MME 0x63000013
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID,
NOTIFY:STATUS_RESP_LIFETIME) from 10.1.1.1

MME 0x63000044
RESPONDER-LIFETIME notify has value of 3600 seconds

MME 0x63000045
RESPONDER-LIFETIME notify has value of 4608000 kb

MME 0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 10.1.1.1

MME 0x63000058
Loading IPsec SA (Message ID = 0x07E6A9E1 OUTBOUND SPI = 0x0EA6FB8
INBOUND SPI = 0x3C2B302B)

MME 0x6300002F
Loading IPsec SA (Message ID = 0x07E6A9E1 OUTBOUND SPI = 0x0EA6FB8
INBOUND SPI = 0x3C2B302B)

MME 0x63000025
Loaded OUTBOUND ESP SPI: 0x0EA6FB8

MME 0x63000026
Loaded INBOUND ESP SPI: 0x3C2B302B

MME 0x63100019
Mode Config data received

MME 0x63000019
Mode Config data received

MME 0x6310001A
One secure connection established

MME 0x63300003
Connection established.

MME 0x63300008
MAPI32 Information − Outlook not default mail client

MME 0x63700010
Created a new key structure

MME 0x6370000F
Created a new key structure
Added key with SPI=0xc8fba60e into key list

57 16:48:16.553 03/05/02 Sev=Info/4 IPSEC/0x63700010 Created a new key structure

58 16:48:16.553 03/05/02 Sev=Info/4 IPSEC/0x6370000F Added key with SPI=0x2b302b3c into key list

59 16:48:26.357 03/05/02 Sev=Info/5 IKE/0x63000055 Received a key request from Driver for IP address 172.18.124.159, GW IP = 10.1.1.1

60 16:48:26.357 03/05/02 Sev=Info/4 IKE/0x63000013 SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 10.1.1.1

61 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x6300002F Received ISAKMP packet: peer = 10.1.1.1

62 16:48:26.668 03/05/02 Sev=Info/4 IKE/0x63000014 RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME) from 10.1.1.1

63 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000044 RESPONDER−LIFETIME notify has value of 3600 seconds

64 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000045 RESPONDER−LIFETIME notify has value of 4608000 kb

65 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000013 SENDING >>> ISAKMP OAK QM *(HASH) to 10.1.1.1

66 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000058 Loading IPsec SA (Message ID = 0xB41A7B54 OUTBOUND SPI = 0x2359F2EE INBOUND SPI = 0x42FC1D6A)

67 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000025 Loaded OUTBOUND ESP SPI: 0x2359F2EE

68 16:48:26.668 03/05/02 Sev=Info/5 IKE/0x63000026 Loaded INBOUND ESP SPI: 0x42FC1D6A

69 16:48:26.668 03/05/02 Sev=Info/4 CM/0x63100022 Additional Phase 2 SA established.

Related Information

- RADIUS Technology Support
- IPSec Negotiation/IKE Protocols Support
- Cisco VPN Client Product Support
- Request for Comments (RFCs)
- Technical Support & Documentation – Cisco Systems