PIX/ASA 7.x 及更高版本：在静态寻址IOS路由器和动态地寻址PIX之间的动态IPSec与NAT的配置示例

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简介

本文提供一个配置示例，显示如何使路由器接受来自 PIX 的动态 IPSec 连接。如果私有网络 10.2.1.x访问互联网，远程路由器执行网络地址转换(NAT)。从 10.2.1.x 经过 PIX 安全设备到达专用网络 10.1.1.x 的数据流不会执行 NAT 进程。仅当数据流 (10.1.1.x) 从 PIX 安全设备发起与具有远程网络 (10.2.1.x) 的路由器的连接时，才会建立 IPsec 隧道。PIX 可以发起到路由器的连接，但路由器无法发起到 PIX 的连接。

此配置使用 Cisco IOS® 路由器，以创建到安全设备的动态 IPsec LAN 到 LAN (L2L) 隧道，该安全设备在其公共接口（外部接口）上接收动态 IP 地址。动态主机配置协议(DHCP)提供一机制为了从服务提供商动态地分配IP地址。这样，当主机不再需要这些 IP 地址时，就可以重用它们。

有关 PIX 6.x 接受来自路由器的动态 IPsec 连接的方案的更多信息，请参阅配置使用 NAT 的 PIX 到路由器的动态到静态 IPsec。

有关路由器接受来自 PIX 6.x 防火墙的动态 IPsec 连接的方案的详细信息，请参阅对 NAT 配置路由器到 PIX 的动态到静态 IPsec 的示例。

要启用 PIX/ASA 安全设备以接受来自 Cisco IOS 路由器的动态 IPsec 连接，请参阅静态 IOS 路由器和使用 NAT 的动态 PIX/ASA 7.x 之间 IPsec 配置示例。

有关 PIX/ASA 安全设备 7.x 接受来自另一个 PIX 6.x 的动态 IPsec 连接的方案的更多信息，请参阅配置使用 NAT 和 VPN 客户端的 PIX/ASA 7.x PIX 到 PIX 动态到静态 IPsec 配置示例。

先决条件

要求

在尝试进行此配置之前，请确保 PIX 和路由器都具有 Internet 连接，以便建立 IPsec 隧道。

本文档假定您已在公共接口和专用接口上分配了 IP 地址，并且能够对远程 VPN 设备的 IP 地址执行 ping 操作。

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 12.4 的 Cisco 3600
- PIX 515E 系列安全设备软件 7.x 及更高版本

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。

相关产品

Cisco ASA 5500 系列版本 7.x 运行类似 PIX 版本 7.x 的软件版本。本文档中的配置适用于这两个产品系列。

规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

背景信息

在 PIX 上，**access-list** 和 **nat 0** 命令协同工作。当 10.1.1.0 网络上的用户访问 10.2.1.0 网络时，将使用访问列表允许 10.1.1.0 网络数据流在没有 NAT 的情况下进行加密。在路由器上，将使用 **access-list** 命令允许 10.2.1.0 网络数据流在没有 NAT 的情况下进行加密。然而，当同样用户去别处(类似互联网)时，他们翻译对外部接口IP地址通过端口地址转换(PAT)。

要使通过隧道的数据流不经过 PAT，而使到达 Internet 的数据流经过 PAT，则必须在 PIX 安全设备上使用以下配置命令。

```
access-list nonat permit ip 10.1.1.0 255.255.255.0 10.2.2.0 255.255.255.0 nat (inside) 0 access-list nonat nat (inside) 1 10.1.1.0 255.255.255.0 0 0
```

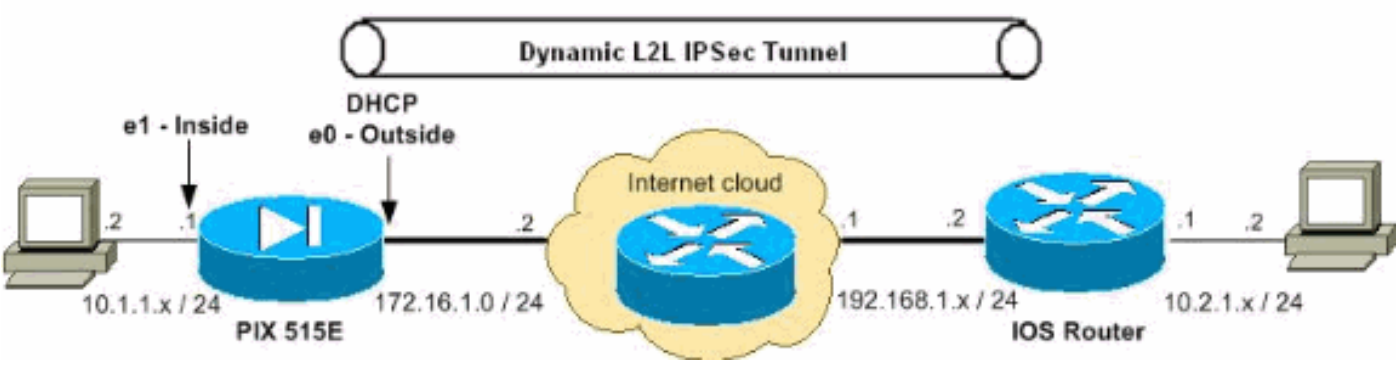
配置

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（仅限注册用户）可获取有关本部分所使用命令的详细信息。

网络图

本文档使用以下网络设置：



配置

本文档使用以下配置：

- PIX 安全设备配置
- 路由器配置

PIX 7.x

```
pixfirewall#show running-config PIX Version 7.2(2) !
hostname pixfirewall enable password 8Ry2YjIyt7RRXU24
encrypted names ! !--- The interface dynamically learns
its IP address !--- from the service provider. interface
Ethernet0 nameif outside security-level 0 ip address
dhcp ! interface Ethernet1 nameif inside security-level
100 ip address 10.1.1.2 255.255.255.0 ! ! !-- Output is
suppressed. ! passwd 2KFQnbNIdI.2KYOU encrypted ftp mode
passive !--- This is the access list (IPsec-traffic)
used for the VPN interesting traffic !--- to be
encrypted. access-list IPSec-traffic extended permit ip
10.1.1.0 255.255.255.0 10.2.1.0 255.255.255.0 !--- This
access list (nonat) is used for a nat zero command that
prevents !--- traffic which matches the access list from
undergoing NAT. access-list NO-NAT extended permit ip
10.1.1.0 255.255.255.0 10.2.1.0 255.255.255.0 pager
lines 24 mtu inside 1500 mtu outside 1500 no failover
icmp unreachable rate-limit 1 burst-size 1 no asdm
history enable arp timeout 14400 !--- NAT 0 prevents NAT
for networks specified in the ACL - nonat. !--- The nat
1 command specifies PAT using the !--- outside interface
for all other traffic. global (outside) 1 interface nat
(inside) 0 access-list NO-NAT nat (inside) 1 0.0.0.0
0.0.0.0 route outside 0.0.0.0 0.0.0.0 172.16.1.2 1
timeout xlate 3:00:00 timeout conn 1:00:00 half-closed
0:10:00 udp 0:02:00 icmp 0:00:02 timeout sunrpc 0:10:00
h323 0:05:00 h225 1:00:00 mgcp 0:05:00 mgcp-pat 0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00
sip-disconnect 0:02:00 timeout uauth 0:05:00 absolute no
snmp-server location no snmp-server contact snmp-server
```

```
enable traps snmp authentication linkup linkdown
coldstart !--- PHASE 2 CONFIGURATION ---! !--- The
encryption types for Phase 2 are defined here. !--- A
triple single DES encryption with !--- the md5 hash
algorithm is used. crypto ipsec transform-set DYN-TS
esp-des esp-md5-hmac !--- Define which traffic should be
sent to the IPsec peer. crypto map IPSEC 10 match
address IPSec-traffic !--- Sets the IPsec peer. crypto
map IPSEC 10 set peer 192.168.1.2 !--- Sets the IPsec
transform set "DYN-TS" !--- to be used with the crypto
map entry "IPSEC". crypto map IPSEC 10 set transform-set
DYN-TS !--- Specifies the interface to be used with !---
the settings defined in this configuration. crypto map
IPSEC interface outside !--- Enables IPsec on the
outside interface. crypto isakmp enable outside !---
PHASE 1 CONFIGURATION ---! !--- This configuration uses
isakmp policy 10. !--- Policy 65535 is included in the
configuration by default. !--- The configuration
commands here define the Phase !--- 1 policy parameters
that are used. crypto isakmp policy 10 authentication
pre-share encryption des hash md5 group 1 lifetime 86400
crypto isakmp policy 65535 authentication pre-share
encryption 3des hash sha group 2 lifetime 86400 !--- In
order to create and manage the database of connection-
specific records !--- for IPsec-L2L–IPsec tunnels, use
the tunnel-group !--- command in global configuration
mode. !--- For L2L connections the name of the tunnel
group MUST be the IP !--- address of the IPsec peer.
tunnel-group 192.168.1.2 type ipsec-l2l !--- Enter the
pre-shared-key in IPsec-attribute parameters !--- in
order to configure the authentication method. tunnel-
group 192.168.1.2 ipsec-attributes pre-shared-key *
telnet timeout 5 ssh timeout 5 console timeout 0 !
class-map inspection_default match default-inspection-
traffic ! ! policy-map type inspect dns preset_dns_map
parameters message-length maximum 512 policy-map
global_policy class inspection_default inspect dns
preset_dns_map inspect ftp inspect h323 h225 inspect
h323 ras inspect netbios inspect rsh inspect rtsp
inspect skinny inspect esmtp inspect sqlnet inspect
sunrpc inspect tftp inspect sip inspect xdmcp ! service-
policy global_policy global prompt hostname context
Cryptochecksum:d609c9eaf51c154f147b3b4ba3c834e0 : end
pixfirewall#
```

路由器

```
Router#show running-config Current configuration : 1354
bytes ! version 12.4 service timestamps debug datetime
msec service timestamps log datetime msec no service
password-encryption ! hostname Router ! boot-start-
marker boot-end-marker ! ! no aaa new-model ! resource
policy ! ! ! ip cef ! !--- Configuration for IKE
policies. !--- Enables the IKE policy configuration
(config-isakmp) !--- command mode, where you can specify
the parameters that !--- are used during an IKE
negotiation. crypto isakmp policy 10 hash md5
authentication pre-share !--- Specifies the preshared
key "cisco123" which should !--- be identical at both
peers. This is a global !--- configuration mode command.
It accepts any peer which matches !--- the pre-shared
key. crypto isakmp key cisco123 address 0.0.0.0 0.0.0.0
! !--- Configuration for IPsec policies. !--- Enables
the crypto transform configuration mode, !--- where you
can specify the transform sets that are used !--- during
```

```
an IPsec negotiation. crypto ipsec transform-set DYN-TS
esp-des esp-md5-hmac !--- IPsec policy, Phase 2. crypto
dynamic-map DYN 10 !--- Configures IPsec to use the
transform-set !--- "DYN-TS" defined earlier in this
configuration. set transform-set DYN-TS crypto map IPSEC
10 ipsec-isakmp dynamic DYN ! interface Ethernet0/0 ip
address 192.168.1.2 255.255.255.0 ip nat outside ip
virtual-reassembly half-duplex !--- Configures the
interface to use the !--- crypto map "IPSEC" for IPsec.
crypto map IPSEC ! interface FastEthernet1/0 ip address
10.2.1.1 255.255.255.0 ip nat inside ip virtual-
reassembly duplex auto speed auto ! interface Serial2/0
no ip address shutdown no fair-queue ! interface
Serial2/1 no ip address shutdown ! interface Serial2/2
no ip address shutdown ! interface Serial2/3 no ip
address shutdown ! ip http server no ip http secure-
server ! ip route 0.0.0.0 0.0.0.0 192.168.1.1 ! ip nat
inside source list 100 interface Ethernet0/0 overload !
!--- This ACL 100 identifies the traffic flows and be
PATed !--- via the outside interface( Ethernet0/0).
access-list 100 deny ip 10.2.1.0 0.0.0.255 10.1.1.0
0.0.0.255 access-list 100 permit ip 10.2.1.0 0.0.0.255
any control-plane ! ! line con 0 line aux 0 line vty 0 4
! ! end
```

清除安全关联 (SA)

在 PIX 的特权模式下使用以下这些命令：

- **clear [crypto] ipsec sa** - 删除活动 IPsec SA。关键字 crypto 是可选的。
- **clear [crypto] isakmp sa** - 删除活动 IKE SA。关键字 crypto 是可选的。

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。

- PIX 安全设备 - **show** 命令
- 远程 IOS 路由器 - **show** 命令

PIX 安全设备 - show 命令

- **show crypto isakmp sa** - 显示对等体上的所有当前 IKE SA。`pixfirewall#show crypto isakmp sa Active SA: 1 Rekey SA: 0 (A tunnel will report 1 Active and 1 Rekey SA during rekey) Total IKE SA: 1 1 IKE Peer: 192.168.1.2 Type : L2L Role : initiator Rekey : no State : MM_ACTIVE`
- **show crypto ipsec sa** — 显示对等体上的所有当前 IPsec SA。`pixfirewall#show crypto ipsec sa interface: outside Crypto map tag: IPSEC, seq num: 10, local addr: 172.16.1.1 access-list IPSec-traffic permit ip 10.1.1.0 255.255.255.0 10.2.1.0 255.255.255.0 local ident (addr/mask/prot/port): (10.1.1.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port): (10.2.1.0/255.255.255.0/0/0) current_peer: 192.168.1.2 #pkts encaps: 10, #pkts encrypt: 10, #pkts digest: 10 #pkts decaps: 10, #pkts decrypt: 10, #pkts verify: 10 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 10, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local`

crypto endpt.: 172.16.1.1, remote crypto endpt.: 192.168.1.2 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: 537BC76F inbound esp sas: spi: 0x64D800CB (1691877579) transform: esp-des esp-md5-hmac none in use settings ={L2L, Tunnel, } slot: 0, conn_id: 1, crypto-map: IPSEC sa timing: remaining key lifetime (kB/sec): (4274999/3506) IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0x537BC76F (1400620911) transform: esp-des esp-md5-hmac none in use settings ={L2L, Tunnel, } slot: 0, conn_id: 1, crypto-map: IPSEC sa timing: remaining key lifetime (kB/sec): (4274999/3506) IV size: 8 bytes replay detection support: Y

远程 IOS 路由器 - show 命令

- **show crypto isakmp sa** - 显示对等体上的所有当前 IKE SA。Router#**show crypto isakmp sa** dst src state conn-id slot status 192.168.1.2 172.16.1.1 **QM_IDLE** 2 0 **ACTIVE**
- **show crypto ipsec sa** - 显示对等体上的所有当前 IPsec SA。Router#**show crypto ipsec sa** interface: Ethernet0/0 **Crypto map tag: IPSEC, local addr 192.168.1.2** protected vrf: (none) local ident (addr/mask/prot/port): (10.2.1.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port): (10.1.1.0/255.255.255.0/0/0) current_peer 172.16.1.1 port 500 PERMIT, flags={} **#pkts encaps: 10, #pkts encrypt: 10, #pkts digest: 10 #pkts decaps: 10, #pkts decrypt: 10, #pkts verify: 10** #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts compr. failed: 0 #pkts not decompressed: 0, #pkts decompress failed: 0 #send errors 0, #recv errors 0 **local crypto endpt.: 192.168.1.2, remote crypto endpt.: 172.16.1.1** path mtu 1500, ip mtu 1500, ip mtu idb Ethernet0/0 current outbound spi: 0x64D800CB(1691877579) inbound esp sas: spi: 0x537BC76F(1400620911) transform: esp-des esp-md5-hmac , in use settings ={Tunnel, } conn id: 2001, flow_id: SW:1, crypto map: IPSEC sa timing: remaining key lifetime (k/sec): (4390267/3494) IV size: 8 bytes replay detection support: Y Status: ACTIVE inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0x64D800CB(1691877579) transform: esp-des esp-md5-hmac , in use settings ={Tunnel, } conn id: 2002, flow_id: SW:2, crypto map: IPSEC sa timing: remaining key lifetime (k/sec): (4390267/3492) IV size: 8 bytes replay detection support: Y Status: ACTIVE outbound ah sas: outbound pcp sas:

故障排除

本部分提供的信息可用于对配置进行故障排除。此外本部分还提供了 debug 输出示例。

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： 发出 **debug** 命令之前，请参阅有关 debug 命令的重要信息和 IP 安全故障排除 - 了解和使用 debug 命令。

- PIX 安全设备 - debug 输出**debug crypto ipsec 7** - 显示第 2 阶段的 IPsec 协商。**debug crypto isakmp 7** - 显示第 1 阶段的 ISAKMP 协商。
- 远程 IOS 路由器 - debug 输出**debug crypto ipsec** - 显示第 2 阶段的 IPsec 协商。**debug crypto isakmp** - 显示第 1 阶段的 ISAKMP 协商。

PIX 安全设备 - debug 输出

PIX#**debug crypto isakmp 7** Feb 22 01:39:59 [IKEv1 DEBUG]: Pitcher: received a key acquire mess age, spi 0x0 Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE Initiator: New Phase 1, Intf insi de, IKE Peer 192.168.1.2 local Proxy Address 10.1.1.0, remote Proxy Address 10. 2.1.0, Crypto map (IPSEC) Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing ISAKMP SA payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing Fragmentation VID + extended capabilities payload Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=0) with payloads : HDR + SA (1) + VENDOR (13) + NONE (0) total length : 144 Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE RECEIVED Message (msgid=0) with payloads : HDR +

SA (1) + NONE (0) total length : 84 Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing SA payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Oakley proposal is acceptable Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing ke payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing nonce payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing Cisco Unity VID pa yload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing xauth V6 VID paylo ad Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Send IOS VID Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Constructing ASA spoofing IOS V endor ID payload (version: 1.0.0, capabilities: 20000001) Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, constructing VID payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Send Altiga/Cisco VPN3000/Cisco ASA GW VID Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=0) with payloads : HDR + KE (4) + NONCE (10) + VENDOR (13) + VENDOR (13) + VENDOR (13) + VENDOR (13) + NONE (0) total length : 224 Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE RECEIVED Message (msgid=0) with payloads : HDR + KE (4) + NONCE (10) + VENDOR (13) + VENDOR (13) + VENDOR (13) + VENDOR (13) + NONE (0) total length : 224 Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing ke payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing ISA_KE payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing nonce payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing VID payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Received Cisco Unity client VID Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing VID payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Received DPD VID Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing VID payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Processing IOS/PIX Vendor ID pa yload (version: 1.0.0, capabilities: 0000077f) Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, processing VID payload Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Received xauth V6 VID Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, Connection landed on tunnel_group 192 .168.1.2 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Generating keys for Initiator... Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng ID payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng hash payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Computing hash for ISAKMP Feb 22 01:39:59 [IKEv1 DEBUG]: IP = 192.168.1.2, Constructing IOS keep alive pay load: proposal=32767/32767 sec. Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng dpd vid payload Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=0) with payloads : HDR + ID (5) + HASH (8) + IOS KEEPALIVE (128) + VENDOR (13) + NO NE (0) total length : 92 Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE RECEIVED Message (msgid=0) with payloads : HDR + ID (5) + HASH (8) + NONE (0) total length : 60 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing ID payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing hash payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Computing hash for ISAKMP Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, Connection landed on tunnel_group 192 .168.1.2 Feb 22 01:39:59 [IKEv1]: Group = 192.168.1.2, IP = 192.168.1.2, Freeing previous ly allocated memory for authorization-dn-attributes Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Oakley beg in quick mode Feb 22 01:39:59 [IKEv1]: Group = 192.168.1.2, IP = 192.168.1.2, PHASE 1 COMPLETE D Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, Keep-alive type for this connection: DPD Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Starting P 1 rekey timer: 82080 seconds. Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, IKE got SP I from key engine: SPI = 0x81004014 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, oakley con stucting quick mode Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng blank hash payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng IPSec SA payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng IPSec nonce payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng proxy ID Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Transmitti ng Proxy Id: Local subnet: 10.1.1.0 mask 255.255.255.0 Protocol 0 Port 0 Remote subnet: 10.2.1.0 Mask 255.255.255.0 Protocol 0 Port 0 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng qm hash payload Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=270 72fbd) with payloads : HDR + HASH (8) + SA (1) + NONCE (10) + ID (5) + ID (5) + NOTIFY (11) + NONE (0) total length : 192 Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE RECEIVED Message (msgid=27 072fbd) with payloads : HDR + HASH (8) + SA (1) + NONCE (10) + ID (5) + ID (5) + NOTIFY (11) + NONE (0) total length : 192 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing hash payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing SA payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing nonce payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing ID payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing ID payload Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing notify payload Feb 22 01:39:59

[IKEv1]: Group = 192.168.1.2, IP = 192.168.1.2, Responder forcin g change of IPSec rekeying duration from 28800 to 3600 seconds Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, loading al l IPSEC SAs Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Generating Quick Mode Key! Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Generating Quick Mode Key! Feb 22 01:39:59 [IKEv1]: Group = 192.168.1.2, IP = 192.168.1.2, Security negotia tion complete for LAN-to-LAN Group (192.168.1.2) Initiator, Inbound SPI = 0x810 04014, Outbound SPI = 0x07502a09 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, oakley con structing final quick mode Feb 22 01:39:59 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=270 72fbd) with payloads : HDR + HASH (8) + NONE (0) total length : 72 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, IKE got a KEY_ADD msg for SA: SPI = 0x07502a09 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Pitcher: r eceived KEY_UPDATE, spi 0x81004014 Feb 22 01:39:59 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Starting P 2 rekey timer: 3060 seconds. Feb 22 01:39:59 [IKEv1]: Group = 192.168.1.2, IP = 192.168.1.2, PHASE 2 COMPLETE D (msgid=27072fbd) Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Sending ke ep-alive of type DPD R-U-THERE (seq number 0x280e6479) Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng blank hash payload Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, constructi ng qm hash payload Feb 22 01:40:14 [IKEv1]: IP = 192.168.1.2, IKE_DECODE SENDING Message (msgid=8fb a0b26) with payloads : HDR + HASH (8) + NOTIFY (11) + NONE (0) total length : 80 Feb 22 01:40:14 [IKEv1]: IP = 192.168.1.2, IKE_DECODE RECEIVED Message (msgid=7a 18c21c) with payloads : HDR + HASH (8) + NOTIFY (11) + NONE (0) total length : 8 0 Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing hash payload Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, processing notify payload Feb 22 01:40:14 [IKEv1 DEBUG]: Group = 192.168.1.2, IP = 192.168.1.2, Received k eep-alive of type DPD R-U-THERE-ACK (seq number 0x280e6479) pixfirewall#**debug crypto ipsec 7** IPSEC: New embryonic SA created @ 0x01B84200, SCB: 0x028BB1D8, Direction: inbound SPI : 0xAD0608C2 Session ID: 0x00000004 VPIF num : 0x00000002 Tunnel type: l2l Protocol : esp Lifetime : 240 seconds IPSEC: New embryonic SA created @ 0x029956A0, SCB: 0x0291BAD0, Direction: outbound SPI : 0x9BEF30FB Session ID: 0x00000004 VPIF num : 0x00000002 Tunnel type: l2l Protocol : esp Lifetime : 240 seconds IPSEC: Completed host OBSA update, SPI 0x9BEF30FB IPSEC: Creating outbound VPN context, SPI 0x9BEF30FB Flags: 0x00000005 SA : 0x029956A0 SPI : 0x9BEF30FB MTU : 1500 bytes VCID : 0x00000000 Peer : 0x00000000 SCB : 0x0291BAD0 Channel: 0x01727178 IPSEC: Completed outbound VPN context, SPI 0x9BEF30FB VPN handle: 0x0001C9AC IPSEC: New outbound encrypt rule, SPI 0x9BEF30FB Src addr: 10.1.1.0 Src mask: 255.255.255.0 Dst addr: 10.2.1.0 Dst mask: 255.255.255.0 Src ports Upper: 0 Lower: 0 Op : ignore Dst ports Upper: 0 Lower: 0 Op : ignore Protocol: 0 Use protocol: false SPI: 0x00000000 Use SPI: false IPSEC: Completed outbound encrypt rule, SPI 0x9BEF30FB Rule ID: 0x029197A8 IPSEC: New outbound permit rule, SPI 0x9BEF30FB Src addr: 172.16.1.1 Src mask: 255.255.255.255 Dst addr: 192.168.1.2 Dst mask: 255.255.255.255 Src ports Upper: 0 Lower: 0 Op : ignore Dst ports Upper: 0 Lower: 0 Op : ignore Protocol: 50 Use protocol: true SPI: 0x9BEF30FB Use SPI: true IPSEC: Completed outbound permit rule, SPI 0x9BEF30FB Rule ID: 0x02996888 IPSEC: Completed host IBSA update, SPI 0xAD0608C2 IPSEC: Creating inbound VPN context, SPI 0xAD0608C2 Flags: 0x00000006 SA : 0x01B84200 SPI : 0xAD0608C2 MTU : 0 bytes VCID : 0x00000000 Peer : 0x0001C9AC SCB : 0x028BB1D8 Channel: 0x01727178 IPSEC: Completed inbound VPN context, SPI 0xAD0608C2 VPN handle: 0x00020724 IPSEC: Updating outbound VPN context 0x0001C9AC, SPI 0x9BEF30FB Flags: 0x00000005 SA : 0x029956A0 SPI : 0x9BEF30FB MTU : 1500 bytes VCID : 0x00000000 Peer : 0x00020724 SCB : 0x0291BAD0 Channel: 0x01727178 IPSEC: Completed outbound VPN context, SPI 0x9BEF30FB VPN handle: 0x0001C9AC IPSEC: Completed outbound inner rule, SPI 0x9BEF30FB Rule ID: 0x029197A8 IPSEC: Completed outbound outer SPD rule, SPI 0x9BEF30FB Rule ID: 0x02996888 IPSEC: New inbound tunnel flow rule, SPI 0xAD0608C2 Src addr: 10.2.1.0 Src mask: 255.255.255.0 Dst addr: 10.1.1.0 Dst mask: 255.255.255.0 Src ports Upper: 0 Lower: 0 Op : ignore Dst ports Upper: 0 Lower: 0 Op : ignore Protocol: 0 Use protocol: false SPI: 0x00000000 Use SPI: false IPSEC: Completed inbound tunnel flow rule, SPI 0xAD0608C2 Rule ID: 0x02918E30 IPSEC: New inbound decrypt rule, SPI 0xAD0608C2 Src addr: 192.168.1.2 Src mask: 255.255.255.255 Dst addr: 172.16.1.1 Dst mask: 255.255.255.255 Src ports Upper: 0 Lower: 0 Op : ignore Dst ports Upper: 0 Lower: 0 Op : ignore Protocol: 50 Use protocol: true SPI: 0xAD0608C2 Use SPI: true IPSEC: Completed inbound decrypt rule, SPI 0xAD0608C2 Rule ID: 0x02997CD0 IPSEC: New inbound permit rule, SPI 0xAD0608C2 Src addr: 192.168.1.2 Src mask: 255.255.255.255 Dst addr: 172.16.1.1 Dst mask: 255.255.255.255 Src ports Upper: 0 Lower: 0 Op : ignore Dst ports Upper: 0 Lower: 0 Op : ignore Protocol: 50 Use protocol: true SPI: 0xAD0608C2 Use SPI: true IPSEC: Completed inbound permit rule, SPI 0xAD0608C2 Rule ID: 0x029964F0

远程 IOS 路由器 - debug 输出

Router#**debug crypto isakmp** *Feb 22 13:51:57.319: ISAKMP (0:0): received packet from 172.16.1.1

dport 500 sp ort 500 Global (N) NEW SA *Feb 22 13:51:57.319: ISAKMP: Created a peer struct for 172.16.1.1, peer port 50 0 *Feb 22 13:51:57.319: ISAKMP: New peer created peer = 0x64C2864C peer_handle = 0 x80000005 *Feb 22 13:51:57.319: ISAKMP: Locking peer struct 0x64C2864C, IKE refcount 1 for crypto_isakmp_process_block *Feb 22 13:51:57.319: ISAKMP: local port 500, remote port 500 *Feb 22 13:51:57.323: insert sa successfully sa = 65166F40 *Feb 22 13:51:57.323: ISAKMP:(0:0:N/A:0):Input = IKE_MESG_FROM_PEER, IKE_MM_EXCH *Feb 22 13:51:57.323: ISAKMP:(0:0:N/A:0):Old State = IKE_READY New State = IKE_ R_MM1 *Feb 22 13:51:57.323: ISAKMP:(0:0:N/A:0): processing SA payload. message ID = 0 *Feb 22 13:51:57.327: ISAKMP:(0:0:N/A:0): processing vendor id payload *Feb 22 13:51:57.327: ISAKMP:(0:0:N/A:0): vendor ID seems Unity/DPD but major 19 4 mismatch *Feb 22 13:51:57.327: ISAKMP:(0:0:N/A:0):found peer pre-shared key matching 172. 16.1.1 *Feb 22 13:51:57.327: ISAKMP:(0:0:N/A:0): local preshared key found *Feb 22 13:51:57.327: ISAKMP : Scanning profiles for xauth ... *Feb 22 13:51:57.327: ISAKMP:(0:0:N/A:0):Checking ISAKMP transform 1 against pri ority 10 policy *Feb 22 13:51:57.327: ISAKMP: default group 1 *Feb 22 13:51:57.327: ISAKMP: encryption DES-CBC *Feb 22 13:51:57.327: ISAKMP: hash MD5 *Feb 22 13:51:57.327: ISAKMP: auth pre-share *Feb 22 13:51:57.327: ISAKMP: life type in seconds *Feb 22 13:51:57.327: ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 *Feb 22 13:51:57.331: ISAKMP:(0:0:N/A:0):atts are acceptable. Next payload is 3 *Feb 22 13:51:57.415: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.415: ISAKMP:(0:1:SW:1): vendor ID seems Unity/DPD but major 194 mismatch *Feb 22 13:51:57.419: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_M AIN_MODE *Feb 22 13:51:57.419: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM1 New State = IKE_R _MM1 *Feb 22 13:51:57.423: ISAKMP:(0:1:SW:1): sending packet to 172.16.1.1 my_port 50 0 peer_port 500 (R) MM_SA_SETUP *Feb 22 13:51:57.423: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_C OMPLETE *Feb 22 13:51:57.423: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM1 New State = IKE_R _MM2 *Feb 22 13:51:57.427: ISAKMP (0:134217729): received packet from 172.16.1.1 dpor t 500 sport 500 Global (R) MM_SA_SETUP *Feb 22 13:51:57.427: ISAKMP:(0:1:SW:1):Input = IKE_MESG_FROM_PEER, IKE_MM_EXCH *Feb 22 13:51:57.431: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM2 New State = IKE_R _MM3 *Feb 22 13:51:57.431: ISAKMP:(0:1:SW:1): processing KE payload. message ID = 0 *Feb 22 13:51:57.539: ISAKMP:(0:1:SW:1): processing NONCE payload. message ID = 0 *Feb 22 13:51:57.539: ISAKMP:(0:1:SW:1):found peer pre-shared key matching 172.1 6.1.1 *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1):SKEYID state generated *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): vendor ID is Unity *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): vendor ID seems Unity/DPD but major 46 mismatch *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): vendor ID is XAUTH *Feb 22 13:51:57.543: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.547: ISAKMP:(0:1:SW:1): speaking to another IOS box! *Feb 22 13:51:57.547: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.547: ISAKMP:(0:1:SW:1):vendor ID seems Unity/DPD but hash misma tch *Feb 22 13:51:57.547: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_M AIN_MODE *Feb 22 13:51:57.547: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM3 New State = IKE_R _MM3 *Feb 22 13:51:57.551: ISAKMP:(0:1:SW:1): sending packet to 172.16.1.1 my_port 50 0 peer_port 500 (R) MM_KEY_EXCH *Feb 22 13:51:57.551: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_C OMPLETE *Feb 22 13:51:57.551: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM3 New State = IKE_R _MM4 *Feb 22 13:51:57.559: ISAKMP (0:134217729): received packet from 172.16.1.1 dpor t 500 sport 500 Global (R) MM_KEY_EXCH *Feb 22 13:51:57.559: ISAKMP:(0:1:SW:1):Input = IKE_MESG_FROM_PEER, IKE_MM_EXCH *Feb 22 13:51:57.559: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM4 New State = IKE_R _MM5 *Feb 22 13:51:57.563: ISAKMP:(0:1:SW:1): processing ID payload. message ID = 0 *Feb 22 13:51:57.563: ISAKMP (0:134217729): ID payload next-payload : 8 type : 1 address : 172.16.1.1 protocol : 17 port : 500 length : 12 *Feb 22 13:51:57.563: ISAKMP:(0:1:SW:1):: peer matches *none* of the profiles *Feb 22 13:51:57.563: ISAKMP:(0:1:SW:1): processing HASH payload. message ID = 0 *Feb 22 13:51:57.567: ISAKMP:received payload type 17 *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1): processing vendor id payload *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1): vendor ID is DPD *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1):SA authentication status: authenticated *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1):SA has been authenticated with 172.16.1. 1 *Feb 22 13:51:57.567: ISAKMP: Trying to insert a peer 192.168.1.2/172.16.1.1/500 /, and inserted successfully 64C2864C. *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_M AIN_MODE *Feb 22 13:51:57.567: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM5 New State = IKE_R _MM5 *Feb 22 13:51:57.571: ISAKMP:(0:1:SW:1):SA is doing pre-shared key authenticatio n using id type ID_IPV4_ADDR *Feb 22 13:51:57.571: ISAKMP (0:134217729): ID payload next-payload : 8 type : 1 address : 192.168.1.2 protocol : 17 port : 500 length : 12 *Feb 22 13:51:57.571: ISAKMP:(0:1:SW:1):Total payload length: 12 *Feb 22 13:51:57.575: ISAKMP:(0:1:SW:1): sending packet to 172.16.1.1 my_port 50 0 peer_port 500 (R) MM_KEY_EXCH *Feb 22 13:51:57.575: ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PROCESS_C OMPLETE *Feb 22 13:51:57.575: ISAKMP:(0:1:SW:1):Old State = IKE_R_MM5 New State = IKE_P 1_COMPLETE *Feb 22 13:51:57.579:

ISAKMP:(0:1:SW:1):Input = IKE_MESG_INTERNAL, IKE_PHASE1_CO MPLETE *Feb 22 13:51:57.579: ISAKMP:(0:1:SW:1):Old State = IKE_P1_COMPLETE New State = IKE_P1_COMPLETE *Feb 22 13:51:57.583: ISAKMP (0:134217729): received packet from 172.16.1.1 dpor t 500 sport 500 Global (R) QM_IDLE *Feb 22 13:51:57.583: ISAKMP: set new node 328663488 to QM_IDLE *Feb 22 13:51:57.587: ISAKMP:(0:1:SW:1): processing HASH payload. message ID = 3 28663488 *Feb 22 13:51:57.587: ISAKMP:(0:1:SW:1): processing SA payload. message ID = 328 663488 *Feb 22 13:51:57.587: ISAKMP:(0:1:SW:1):Checking IPSec proposal 1 *Feb 22 13:51:57.587: ISAKMP: transform 1, ESP_DES *Feb 22 13:51:57.591: ISAKMP: attributes in transform: *Feb 22 13:51:57.591: ISAKMP: SA life type in seconds *Feb 22 13:51:57.591: ISAKMP: SA life duration (basic) of 28800 *Feb 22 13:51:57.591: ISAKMP: SA life type in kilobytes *Feb 22 13:51:57.591: ISAKMP: SA life duration (VPI) of 0x0 0x46 0x50 0x0 *Feb 22 13:51:57.595: ISAKMP: encaps is 1 (Tunnel) *Feb 22 13:51:57.595: ISAKMP: authenticator is HMAC-MD5 *Feb 22 13:51:57.595: ISAKMP:(0:1:SW:1):atts are acceptable. *Feb 22 13:51:57.595: ISAKMP:(0:1:SW:1): processing NONCE payload. message ID = 328663488 *Feb 22 13:51:57.595: ISAKMP:(0:1:SW:1): processing ID payload. message ID = 328 663488 *Feb 22 13:51:57.599: ISAKMP:(0:1:SW:1): processing ID payload. message ID = 328 663488 *Feb 22 13:51:57.599: ISAKMP:(0:1:SW:1): processing NOTIFY INITIAL_CONTACT proto col 1 spi 0, message ID = 328663488, sa = 65166F40 *Feb 22 13:51:57.599: ISAKMP:(0:1:SW:1):SA authentication status: authenticated *Feb 22 13:51:57.599: ISAKMP:(0:1:SW:1): Process initial contact, bring down existing phase 1 and 2 SA's with local 192.168.1.2 remote 172.16.1.1 remote port 500 *Feb 22 13:51:57.599: ISAKMP:(0:1:SW:1): asking for 1 spis from ipsec *Feb 22 13:51:57.603: ISAKMP:(0:1:SW:1):Node 328663488, Input = IKE_MESG_FROM_PE ER, IKE_QM_EXCH *Feb 22 13:51:57.603: ISAKMP:(0:1:SW:1):Old State = IKE_QM_READY New State = IK E_QM_SPI_STARVE *Feb 22 13:51:57.603: ISAKMP: received ke message (2/1) *Feb 22 13:51:57.611: ISAKMP: Locking peer struct 0x64C2864C, IPSEC refcount 1 f or for stuff_ke *Feb 22 13:51:57.611: ISAKMP:(0:1:SW:1): Creating IPSec SAs *Feb 22 13:51:57.611: inbound SA from 172.16.1.1 to 192.168.1.2 (f/i) 0 / 0 (proxy 10.1.1.0 to 10.2.1.0) *Feb 22 13:51:57.611: has spi 0x1BB01835 and conn_id 0 and flags 2 *Feb 22 13:51:57.611: lifetime of 28800 seconds *Feb 22 13:51:57.611: lifetime of 4608000 kilobytes *Feb 22 13:51:57.611: has client flags 0x0 *Feb 22 13:51:57.611: outbound SA from 192.168.1.2 to 172.16.1.1 (f/i) 0 /0 (proxy 10.2.1.0 to 10.1.1.0) *Feb 22 13:51:57.611: has spi 1995623635 and conn_id 0 and flags A *Feb 22 13:51:57.611: lifetime of 28800 seconds *Feb 22 13:51:57.611: lifetime of 4608000 kilobytes *Feb 22 13:51:57.611: has client flags 0x0 *Feb 22 13:51:57.615: ISAKMP:(0:1:SW:1): sending packet to 172.16.1.1 my_port 50 0 peer_port 500 (R) QM_IDLE *Feb 22 13:51:57.615: ISAKMP:(0:1:SW:1):Node 328663488, Input = IKE_MESG_FROM_IP SEC, IKE_SPI_REPLY *Feb 22 13:51:57.615: ISAKMP:(0:1:SW:1):Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2 *Feb 22 13:51:57.619: ISAKMP: Locking peer struct 0x64C2864C, IPSEC refcount 2 f or from create_transforms *Feb 22 13:51:57.619: ISAKMP: Unlocking IPSEC struct 0x64C2864C from create_tran sforms, count 1 *Feb 22 13:51:57.631: ISAKMP (0:134217729): received packet from 172.16.1.1 dpor t 500 sport 500 Global (R) QM_IDLE *Feb 22 13:51:57.635: ISAKMP:(0:1:SW:1):deleting node 328663488 error FALSE reas on "QM done (await)" *Feb 22 13:51:57.635: ISAKMP:(0:1:SW:1):Node 328663488, Input = IKE_MESG_FROM_PE ER, IKE_QM_EXCH *Feb 22 13:51:57.635: ISAKMP:(0:1:SW:1):Old State = IKE_QM_R_QM2 New State = IK E_QM_PHASE2_COMPLETE Router#**debug crypto ipsec** *Feb 22 13:57:41.187: IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) INBOUND local= 192.168.1.2, remote= 172.16.1.1, local_proxy= 10.2.1.0/255.255.255.0/0/0 (type=4), remote_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-des esp-md5-hmac (Tunnel), lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2 *Feb 22 13:57:41.187: Crypto mapdb : proxy_match src addr : 10.2.1.0 dst addr : 10.1.1.0 protocol : 0 src port : 0 dst port : 0 *Feb 22 13:57:41.191: IPSEC(key_engine): got a queue event with 1 kei messages *Feb 22 13:57:41.191: IPSEC(key_engine): got a queue event with 1 kei messages *Feb 22 13:57:41.191: IPSEC(spi_response): getting spi 2616144123 for SA from 192.168.1.2 to 172.16.1.1 for prot 3 *Feb 22 13:57:41.199: IPSEC(key_engine): got a queue event with 2 kei messages *Feb 22 13:57:41.199: IPSEC(initialize_sas): , (key eng. msg.) INBOUND local= 192.168.1.2, remote= 172.16.1.1, local_proxy= 10.2.1.0/255.255.255.0/0/0 (type=4), remote_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-des esp-md5-hmac (Tunnel), lifedur= 28800s and 4608000kb, spi= 0x9BEF30FB(2616144123), conn_id= 0, keysize= 0, flags= 0x2 *Feb 22 13:57:41.203: IPSEC(initialize_sas): , (key eng. msg.) OUTBOUND local= 192.168.1.2, remote= 172.16.1.1, local_proxy= 10.2.1.0/255.255.255.0/0/0 (type=4), remote_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-des esp-md5-hmac (Tunnel), lifedur= 28800s and 4608000kb, spi= 0xAD0608C2(2902853826), conn_id= 0, keysize= 0, flags= 0xA *Feb 22 13:57:41.203: Crypto mapdb : proxy_match src addr : 10.2.1.0 dst addr : 10.1.1.0 protocol : 0 src port : 0 dst port : 0 *Feb 22 13:57:41.203: IPSec: Flow_switching Allocated flow for sibling 80000005 *Feb 22 13:57:41.207: IPSEC(policy_db_add_ident): src 10.2.1.0, dest 10.1.1.0, d est_port 0 *Feb 22 13:57:41.207: IPSEC(create_sa): sa created, (sa) sa_dest= 192.168.1.2, sa_proto= 50, sa_spi= 0x9BEF30FB(2616144123), sa_trans= esp-des esp-md5-hmac ,

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sa_conn_id= 2002 *Feb 22 13:57:41.207: IPSEC(create_sa): sa created, (sa) sa_dest= 172.16.1.1,
sa_proto= 50, sa_spi= 0xAD0608C2(2902853826), sa_trans= esp-des esp-md5-hmac , sa_conn_id= 2001
*Feb 22 13:57:41.475: IPSEC(key_engine): got a queue event with 1 kei messages *Feb 22
13:57:41.475: IPSEC(key_engine_enable_outbound): rec'd enable notify fro m ISAKMP *Feb 22
13:57:41.475: IPSEC(key_engine_enable_outbound): enable SA with spi 2902 853826/50
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相关信息

- Cisco PIX 500 系列安全设备
- Cisco ASA 5500 系列自适应安全设备
- Cisco 路由器产品支持
- Cisco Secure PIX 防火墙命令参考
- IPsec 协商/IKE 协议支持页
- 请求注解 (RFC)
- 技术支持和文档 - Cisco Systems