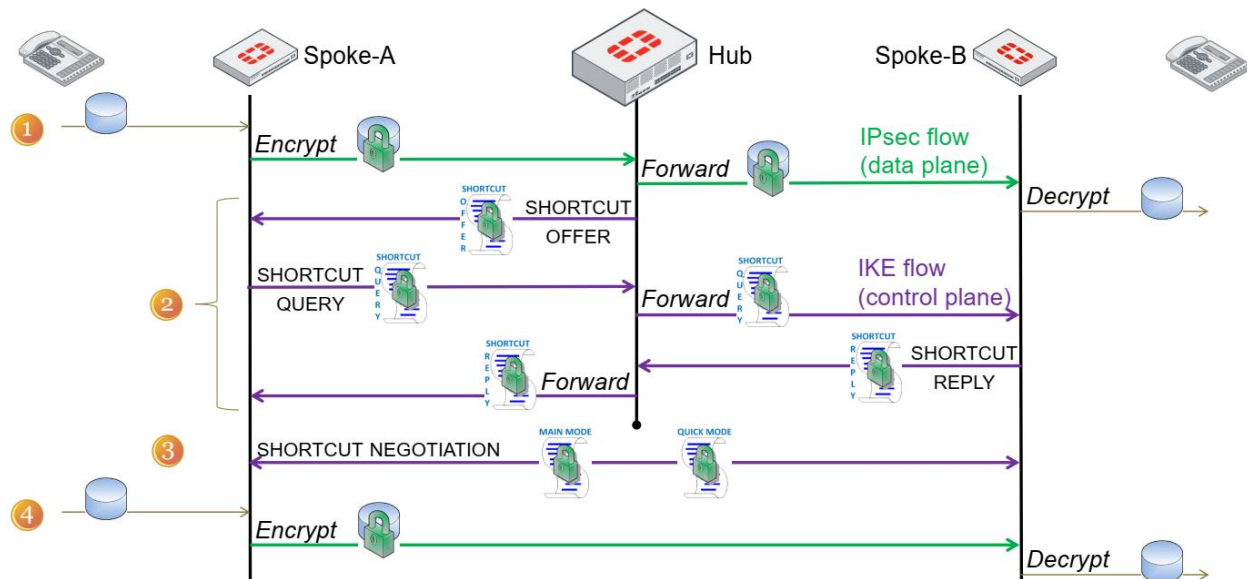


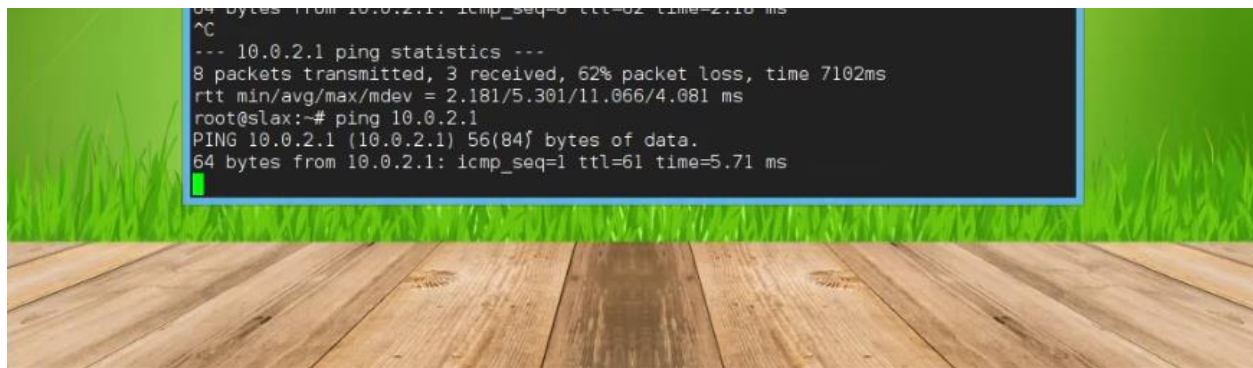
ADVNP Messages Exchange:



Examine IKE messages that are exchanged when an on-demand tunnel is being negotiated:

1. The client behind **Spoke A** generates traffic for devices located on the **Spoke B** network.
2. **Spoke A** receives the packet, encrypts it, and sends it to the hub.
3. The hub receives the packet from **Spoke A** and forwards it to **Spoke B**.
4. **Spoke B** receives the packet, decrypts it, and forwards it to the destination device.
5. Hub knows that a more direct tunnel option might be available from **Spoke A** to **Spoke B**. The hub sends a shortcut offer message to **Spoke A**.
6. **Spoke A** acknowledges the shortcut offer by sending a shortcut query to the hub.
7. The hub forwards the shortcut query message to **Spoke B**.
8. **Spoke B** acknowledges the shortcut query and sends a shortcut reply to the hub.
9. The hub forwards the shortcut reply to **Spoke A**.
10. **Spoke A** and **Spoke B** initiate the tunnel IKE negotiation.

Diagnose Commands
diagnose vpn ike gateway flush
diagnose debug console timestamp enable
diagnose vpn ike log filter clear
diagnose vpn ike log filter mdst-addr4 192.168.1.1 192.168.5.1
diagnose debug application ike -1
diagnose debug enable
Stop Diagnose
diagnose debug reset



```

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951DCBCC34266DD91F45D4417
2023-12-20 00:36:58.249982 ike 0:advpn_1:7: sent IKE msg (INFORMATIONAL_RESPONSE): 192
edc3ba53/34b36f74f71107bf:00000003
2023-12-20 00:37:01.846749 ike shrank heap by 135168 bytes
2023-12-20 00:37:21.640391 ike shrank heap by 135168 bytes
2023-12-20 00:37:24.241354 ike 0: shortcut advpn_0:192.168.5.1:0 to advpn_1:192.168.3.
2023-12-20 00:37:24.242737 ike 0: send shortcut-offer to advpn_0
2023-12-20 00:37:24.243573 ike 0:advpn_0:20: sending NOTIFY msg
2023-12-20 00:37:24.244749 ike 0:advpn_0:9:20: send informational
2023-12-20 00:37:24.245622 ike 0:advpn_0:9: enc 000000880000F0FBEBFEADDE000000001000C
70079711BF1C7B66B233F07C32AEBE488D76DA578B958C49795CF92D3A7FA0E2DB97E52943613C7D0B8264
DA000D0004C0A80301000F000201F41E790706050403020107

5DDDE3387E39B53F583F68FCC8BC013734F0E6C333B13E5FCF77057293524B1FF516B6580478D74CF7CBCFC9A63BE:
2881F2BE1AB9453EACF9072CE37D6C0B7A635E4506FDDDE0375AC71F6BE338635D5AD57F1E0327A47D980B59676AC4
0374153EFA54F
3-12-20 00:37:24.286792 ike 0:advpn_0:9: dec 935DFE3E962BEB15FFF84F52A9C830BE2E20250800000004(
000000000800109CDC3E9FD90B2E7800000000000000000100040A000301000300040A00020100050004C0A8050:
AEBE488D76DA578B958C49795CF92D3A7FA0E2DB97E52943613C7D0B8264C19FFADF675529864CB829C644A000B00(
3-12-20 00:37:24.291109 ike 0:advpn_0:9: received informational request
3-12-20 00:37:24.292054 ike 0:advpn_0:9: processing notify type SHORTCUT_QUERY
3-12-20 00:37:24.293199 ike 0:advpn_0: recv shortcut-query 11549911712143840323 9cdc3e9fd90b2e7
1 psk 64 ppk 0 ttl 32 nat 0 ver 2 mode 0

0 00:37:24.293199 ike 0:advpn_0: recv shortcut-query 11549911712143840323 9cdc3e9fd90b2e7/8/0
64 ppk 0 ttl 32 nat 0 ver 2 mode 0
0 00:37:24.295358 ike 0:advpn: iif 14 10.0.3.1->10.0.2.1 route lookup oif 14 advpn gwy 172.1
0 00:37:24.296542 ike 0: shared dev tunnel lookup, tun-id=172.16.1.2
0 00:37:24.297666 ike 0:advpn_1: forward shortcut-query 11549911712143840323 9cdc3e9fd90b2e7
sk 64 ppk 0 ttl 31 ver 2 mode 0, ext-mapping 192.168.5.1:500
0 00:37:24.300122 ike 0:advpn_0:9: enc 0706050403020107
0 00:37:24.300840 ike 0:advpn_0:9: out 935DFE3E962BEB15FFF84F52A9C830BE2E202520000000040000C
.CCE7E3C28E2BC7C0
0 00:37:24.302547 ike 0:advpn_0:9: sent IKE msg (INFORMATIONAL_RESPONSE): 192.168.1.1:500->1
fff84f52a9c830be:00000004
0 00:37:24.304776 ike 0:advpn 1:21: sending NOTIFY msg

```



```

4.332531 ike 0:advpn_1:7: dec C7D051DCEDC3BA5334B36F74F71107BF2E2025080000004000000B429(
A000201000300040A00030100050004C0A80301000800109CDC3E9FD90B2E788E7708ABA7F02F93000700401:
B958C49795CF92D3A7FA0E2DB97E52943613C7D0B8264C19FFADF675529864CB829C644A000B000102000000(
4.336507 ike 0:advpn_1:7: received informational request
4.337337 ike 0:advpn_1:7: processing notify type SHORTCUT_REPLY
4.338379 ike 0:advpn_1: recv shortcut-reply 11549911712143840323 9cdc3e9fd90b2e78/8e7708a
mode 0 ext-mapping 0.0.0.0:0
4.340403 ike 0:advpn: iif 14 10.0.2.1->10.0.3.1 route lookup oif 14 advpn gwy 172.16.1.3

000300040A0002010007004015651EDF699200F70079711BF1C7B66B233F07C32AEBE488D76DA578B958C49795
B829C644A000B000102103110000C000100587DDA000D0004C0A80301000F000201F41E79
435 ike 0:advpn:8: received informational request
058 ike 0:advpn:8: processing notify type SHORTCUT_OFFER
965 ike 0:advpn: shortcut-offer 10.0.3.1->10.0.2.1 psk 64 ppk 0 ver 2 mode 0, peer-addr 19
980 ike 0 looking up shortcut by addr 10.0.2.1, name advpn, peer-addr 192.168.3.1:500
899 ike 0:advpn: send shortcut-query 11549911712143840323 9cdc3e9fd90b2e78/0000000000000000
ver 2 mode 0
266 ike 0:advpn:8: enc 0706050403020107
832 ike 0:advpn:8: out 935DFE3E962BEB15FFF84F52A9C830BE2E202528000000000000003C00000020C0A

1BF1C7B66B233F07C32AEBE488D76DA578B958C49795CF92D3A7FA0E2DB97E52943613C7D0B8264C19FFADF6755
37:24.374240 ike 0:advpn:8: received informational request
37:24.375621 ike 0:advpn:8: processing notify type SHORTCUT_REPLY
37:24.376689 ike 0:advpn: recv shortcut-reply 11549911712143840323 9cdc3e9fd90b2e78/8e7708a
mode 0 ext-mapping 192.168.3.1:500
37:24.378330 ike 0:advpn: iif 14 10.0.2.1->10.0.3.1 route lookup oif 4 port2 gwy 0.0.0.0
37:24.379409 ike 0:advpn: shortcut-reply received from 192.168.3.1:500, local-nat=no, peer-
37:24.380660 ike 0:advpn: created connection: 0xf32c1d0 3 192.168.5.1->192.168.3.1:500.

```