Investigation in HIP Proxies
draft-irtf-hiprg-proxies-03

Dacheng Zhang

zhangdacheng@huawei.com

Zhen Cao

caozhen@chinamobile.com

Modifications Since the last IETF

- Correct the typos according to Tom Henderson's comments
- Integrated with draft-cao-hiprg-legacy-host
  - According to last meeting's consensus
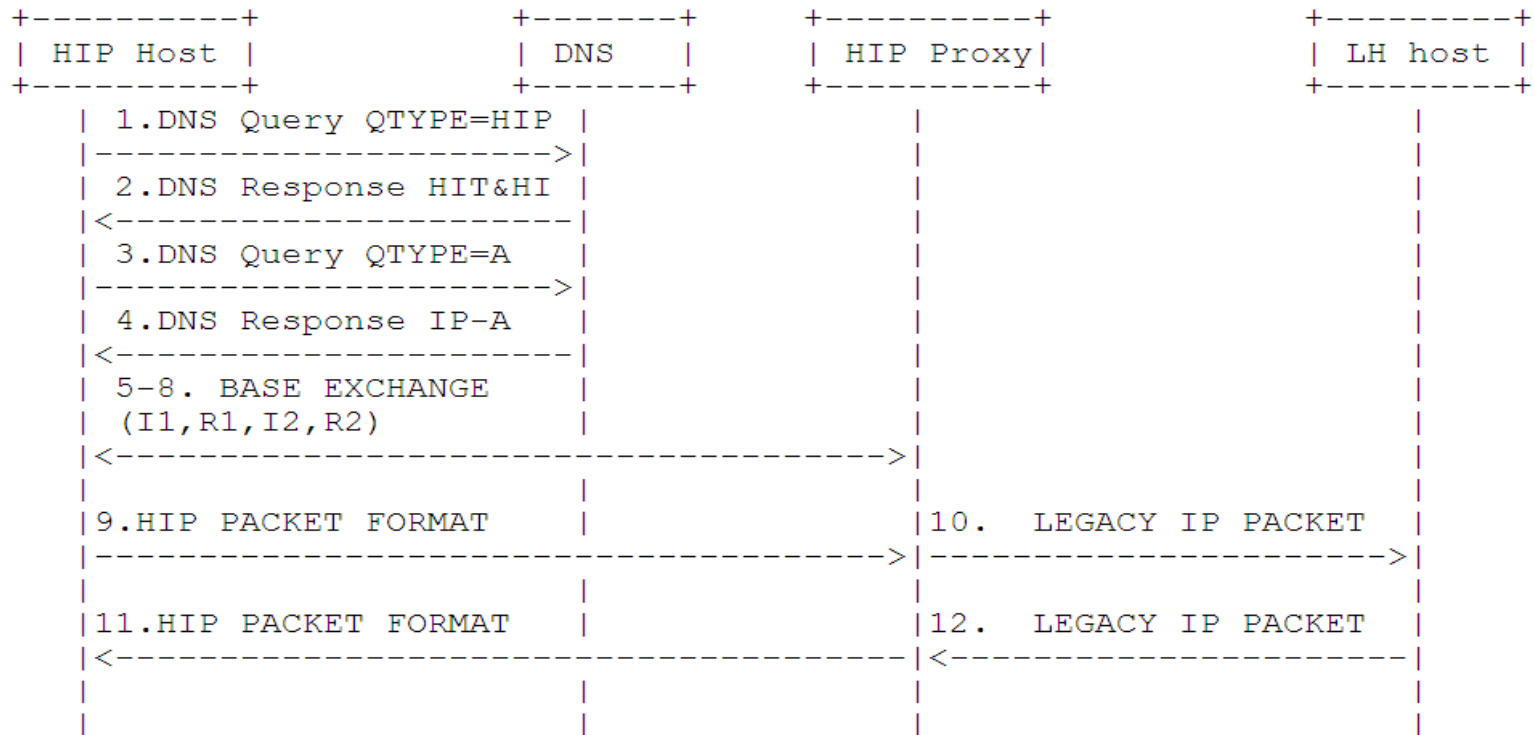- Add additional statements in several places

Section 3.6 (1)

- This section introduces how DI proxies can support communication initialized by HIP hosts.

```
+----------+                  +----------+              +---------+
| HIP Host |                  | DI-Proxy |              | LH host |
+----------+                  +----------+              +---------+
     | 1.DNS Query QTYPE=HIP   |                            |
     |----------------------->|                            |
     | 2.DNS Response HIT&HI   |                            |
     |<-----------------------|                            |
     | 3.DNS Query QTYPE=A     |                            |
     |----------------------->|                            |
     | 4.DNS Response IP-A     |                            |
     |<-----------------------|                            |
     | 5-8.  BASE  EXCHANGE(   |                            |
     |       I1,R1,I2,R2)      |                            |
     |<---------------------->|                            |
     |                        |                            |
     |9.HIP PACKET FORMAT      | 10. LEGACY IP PACKET       |
     |----------------------->|-------------------------->|
     |                        |                            |
     |11.HIP PACKET FORMAT     | 12. LEGACY IP PACKET       |
     |<-----------------------|<--------------------------|
     |                        |                            |
     |                        |                            |
```

Section 3.6 (2)

- In the cases where HIP hosts are deployed in the public network and legacy hosts are deployed in private networks. Following issues must be considered:
  - Scalability issues: it is difficult for a HIP proxy to support large amounts of legacy hosts.
  - Deployment issues: Where to deploy HIP proxies to intercept DNS queries from HIP hosts.
  - Security issues: How the HIP proxies securely transport messages with legacy hosts.

Section 3.7 (1)

- This section introduces how N-DI proxies can support communication initialized by HIP hosts.

```
+----------+              +-------+          +----------+                  +---------+
| HIP Host |              | DNS   |          | HIP Proxy|                  | LH host |
+----------+              +-------+          +----------+                  +---------+
     | 1.DNS Query QTYPE=HIP |                    |                             |
     |---------------------->|                    |                             |
     | 2.DNS Response HIT&HI |                     |                             |
     |<---------------------|                     |                             |
     | 3.DNS Query QTYPE=A   |                     |                             |
     |---------------------->|                    |                             |
     | 4.DNS Response IP-A   |                     |                             |
     |<---------------------|                      |                             |
     | 5-8. BASE EXCHANGE   |                      |                             |
     | (I1,R1,I2,R2)        |                      |                             |
     |<----------------------------------------->|                             |
     |                      |                      |                             |
     |9.HIP PACKET FORMAT   |                     |10.   LEGACY IP PACKET       |
     |------------------------------------------->|---------------------------->|
     |                      |                      |                             |
     |11.HIP PACKET FORMAT  |                     |12.   LEGACY IP PACKET       |
     |<------------------------------------------|<---------------------------|
     |                      |                      |                             |
     |                      |                      |                             |

                                Egress of the
                                Private Network
```

Section 3.7 (2)

- A N-DI proxy should be deployed at the egress of the private network it serves
- N-DI proxies should have essential knowledge including IP addresses of the legacy hosts, their pre-assigned HITs, the corresponding HI key pairs, and etc.

Section 4.1

- Add the statement:
  - "Logically, a LBM adopting Load balancer can be regarded as a variation of distributed HIP Proxies."

Next Step

- Go to Last-Call ?