draft-li-6man-6hosts-detection-00

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Difficulties

IPv4
IP scan: 0.0.0.0-255.255.255.255
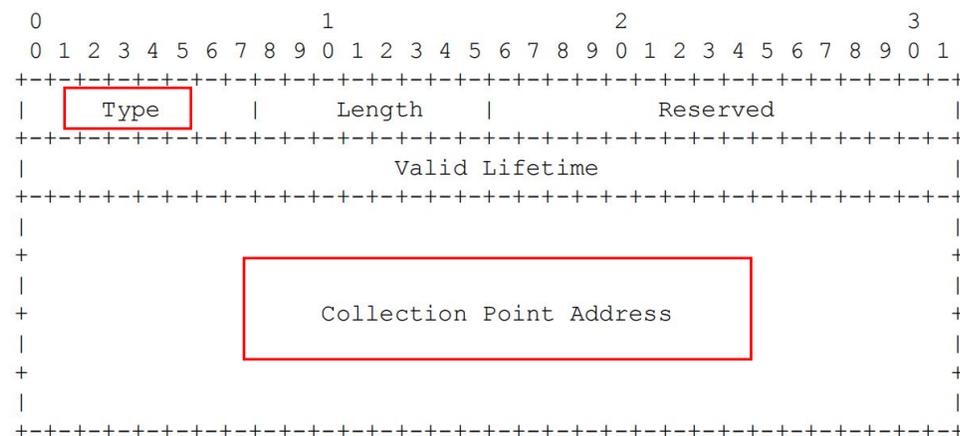cost:serveral hours - several days

IPv6
IP scan: MISSION IMPOSSIBLE
cost:several months - long lifetime

A not well managed network.
No IP list available.

Which IP addresses have been used?

A way to solve the problem

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|    Type       |    Length     |          Reserved             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Valid Lifetime                          |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
+                                                               +
|                                                               |
+                 Collection Point Address                      +
|                                                               |
+                                                               +
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Type: 39. It is 8-bit identifier of the Collection Point
             option type.

Collection Point Address:
        A 128-bit IPv6 address of the Collection Point.

→ Collection Point Advertisement

→ IP address report

ROUTER

RA

ROUTER

RA

RA

Collection Point
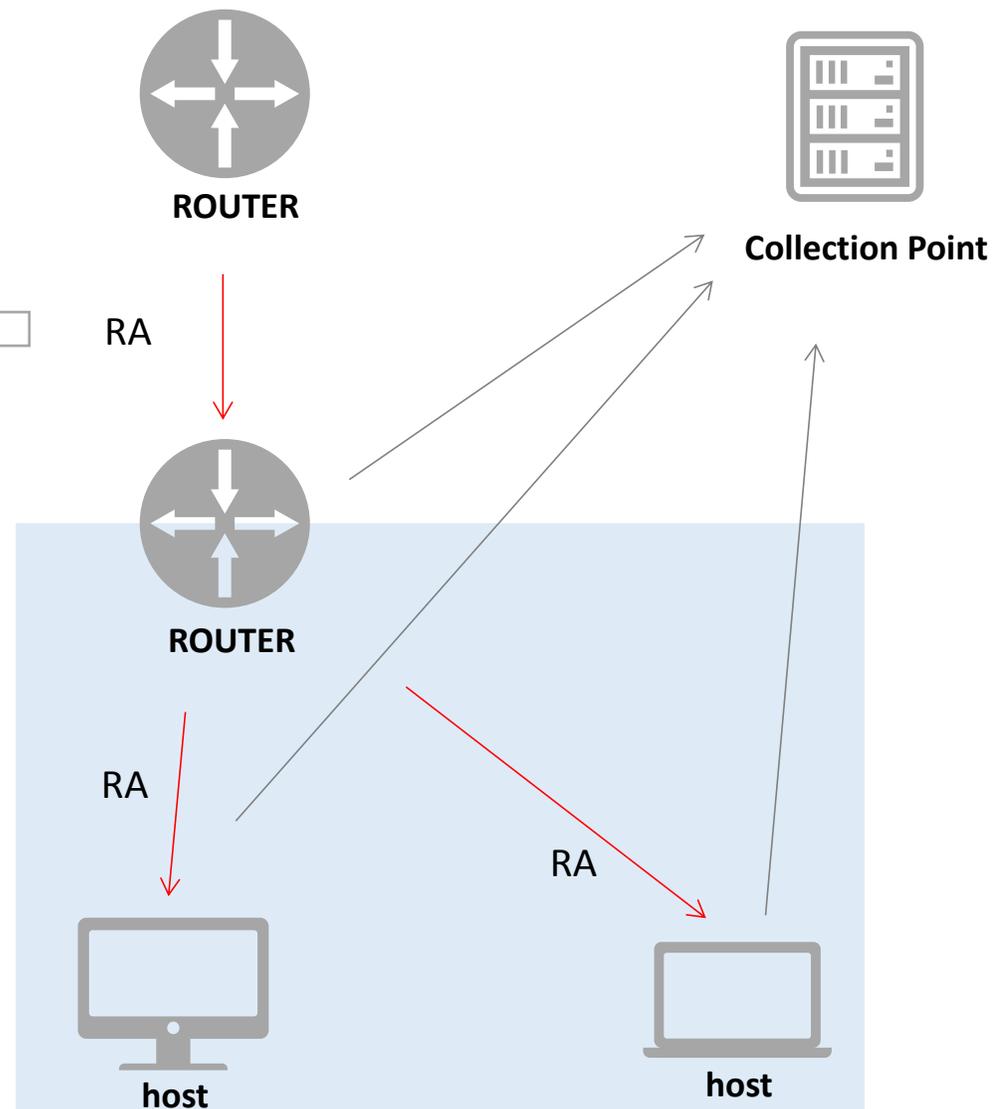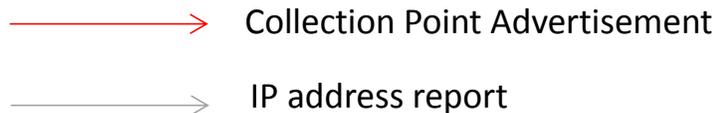
host

host

Scenarios

used alone:

- unintended IPv6 hosts discovery

- get IPv6 hosts list, do further IP scan and vul scan

- hosts and vul management

- IPv6 network audit

in combination:

- YANG module for reporting data

- protocols for network config, for example, NETCONF

- fully management of network

- ……