Address Management for IPv6 Transition

draft-sun-v6ops-openv6-address-pool-management-00

IETF 88-Vancouvor, Nov 2013

C. Xie, Q. Sun, C. Zhou

Motivation

- Network address migration to IPv6 is ongoing or upcoming throughout the world due to the lack of IPv4 addresses.
  - It is quite complicated for a carrier to manage scattered address pools in many transition devices.
  - It will become worse when multiple transition mechanisms coexists with different address pools.
- The occupation of the address pools may vary during different transition periods.

- How to manage the address pools more flexible ?

Overall Procedure

- This mechanism consists of two components
  - Address Management Server
  - Transition Device

1. Operators will configure remaining address pools centrally in the Address Management Server.

2. Transition Device will initiate AddressPool reqeust to the AMS. AMS lookups the remaining address pool in its local database. It will then allocate a set of address pools to the TD.

3. If the lifetime of the address pool is going to expire, the TD should issue an AddressPoolRenew request to extend the lifetime.

4. The AddressPoolReport module keeps monitoring and reports the current usage of the current address pools for each transition mechanism.

Initial Address Pool Configuration

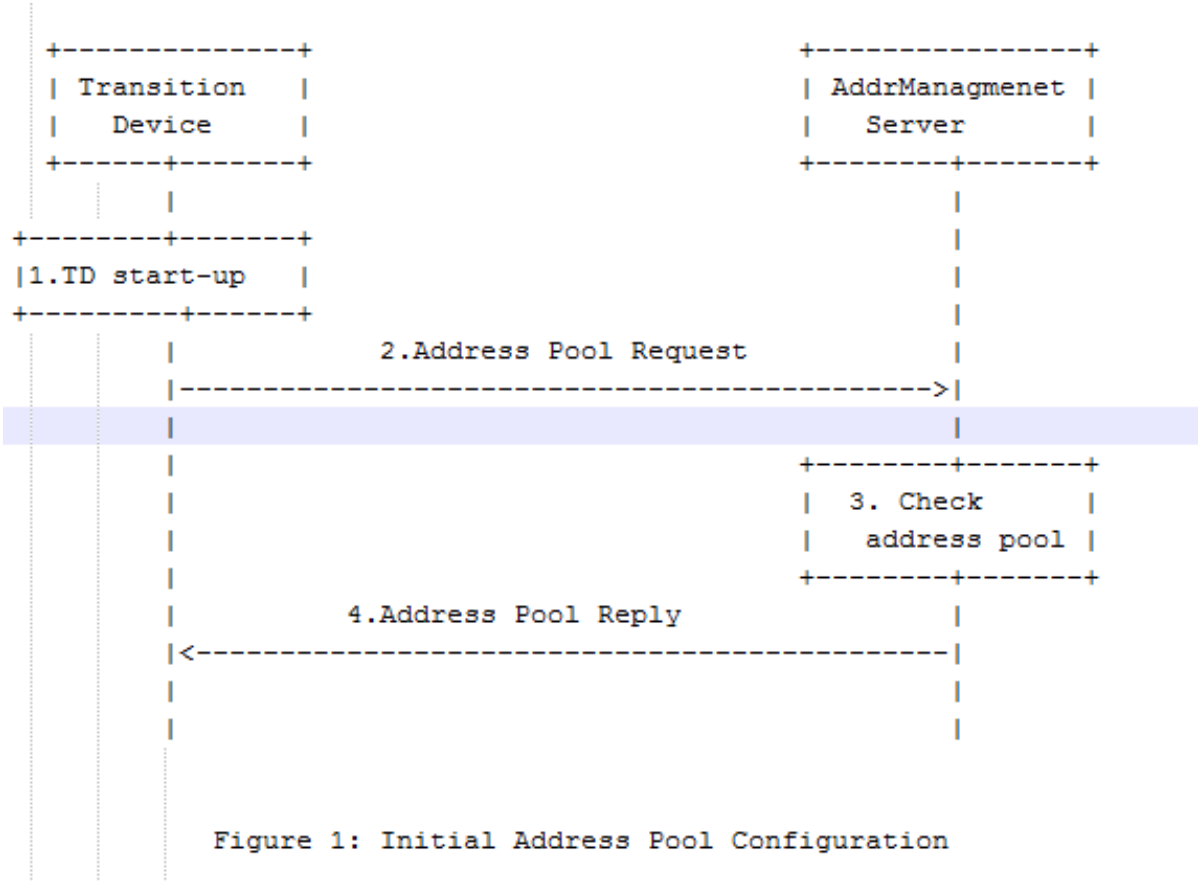
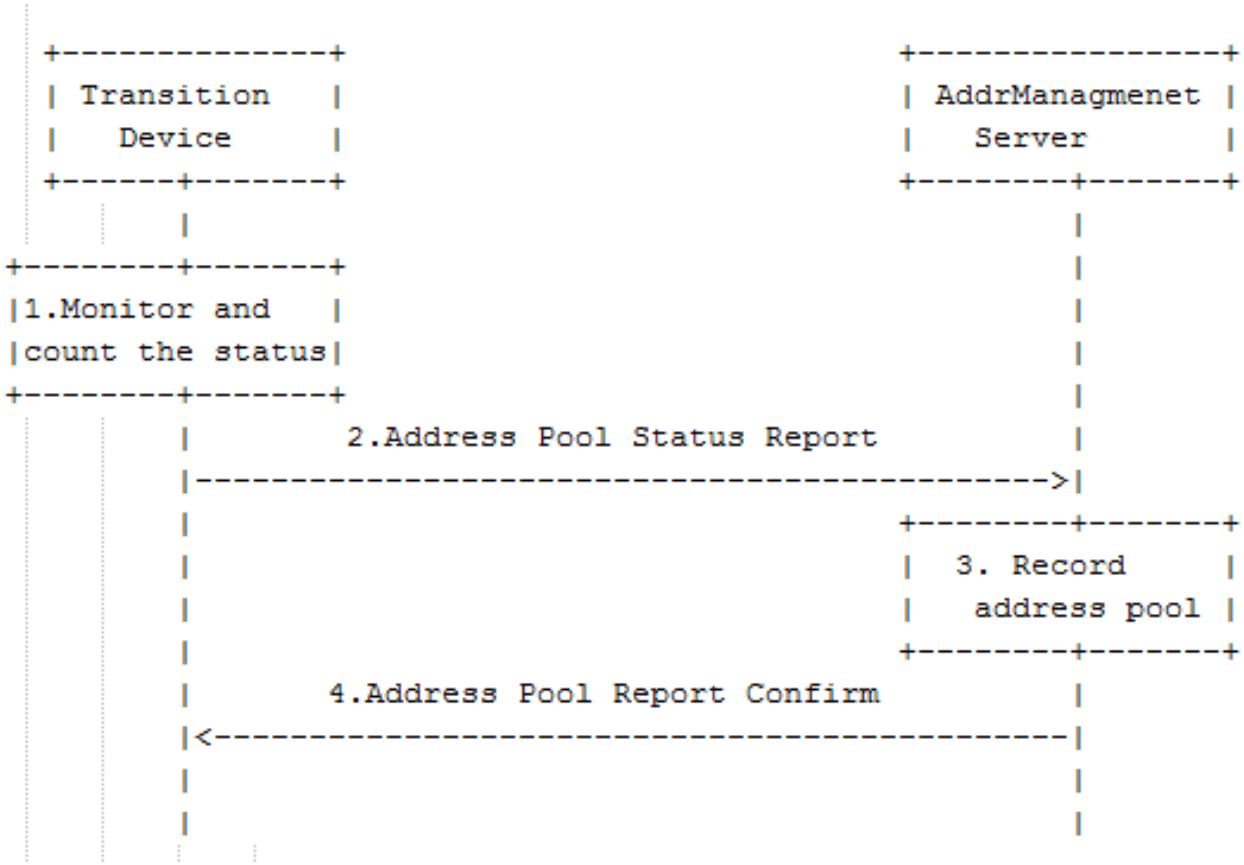
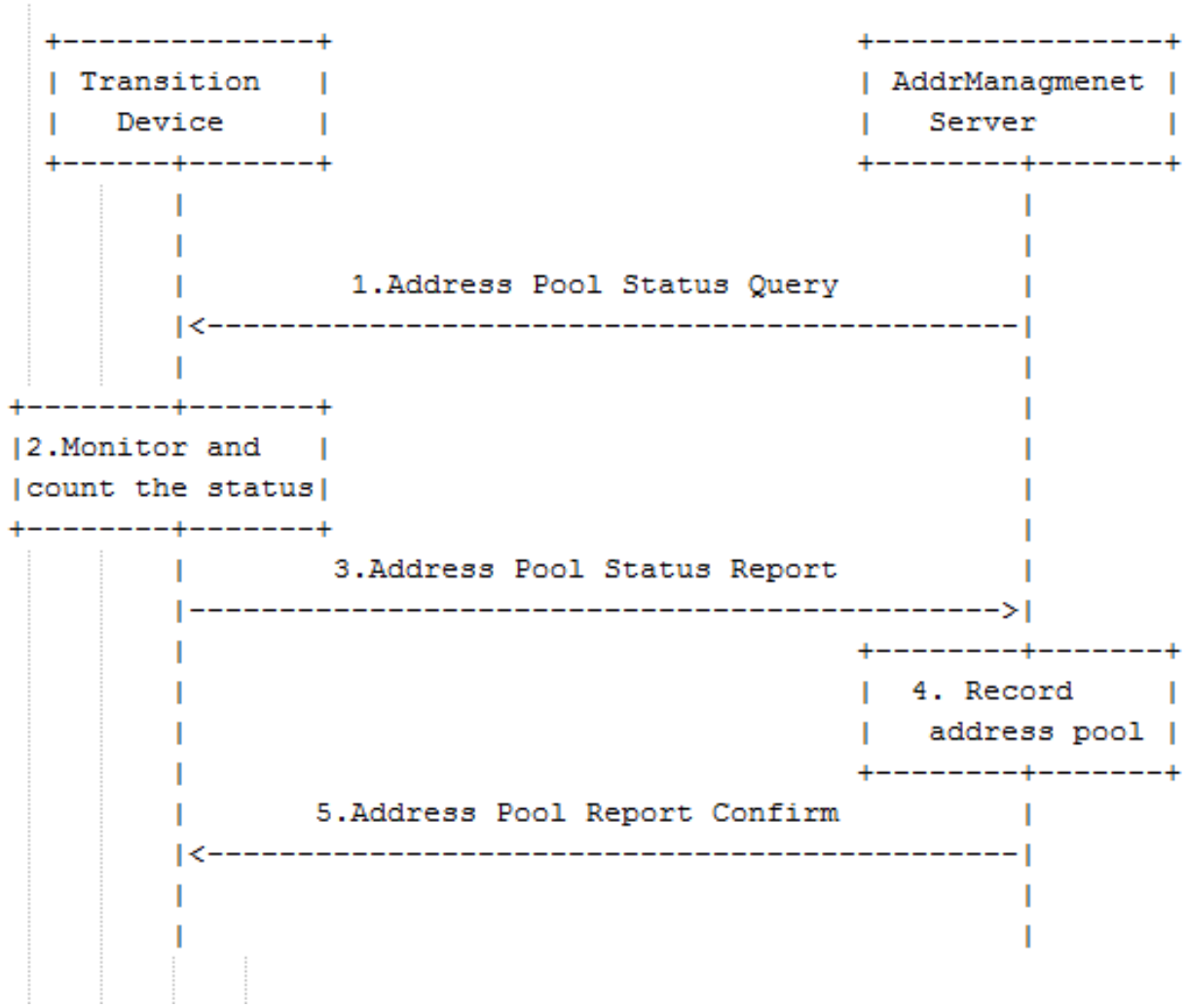


Figure 1: Initial Address Pool Configuration

Address Pool Status Report



Address Pool Status Query



Run Out of Address

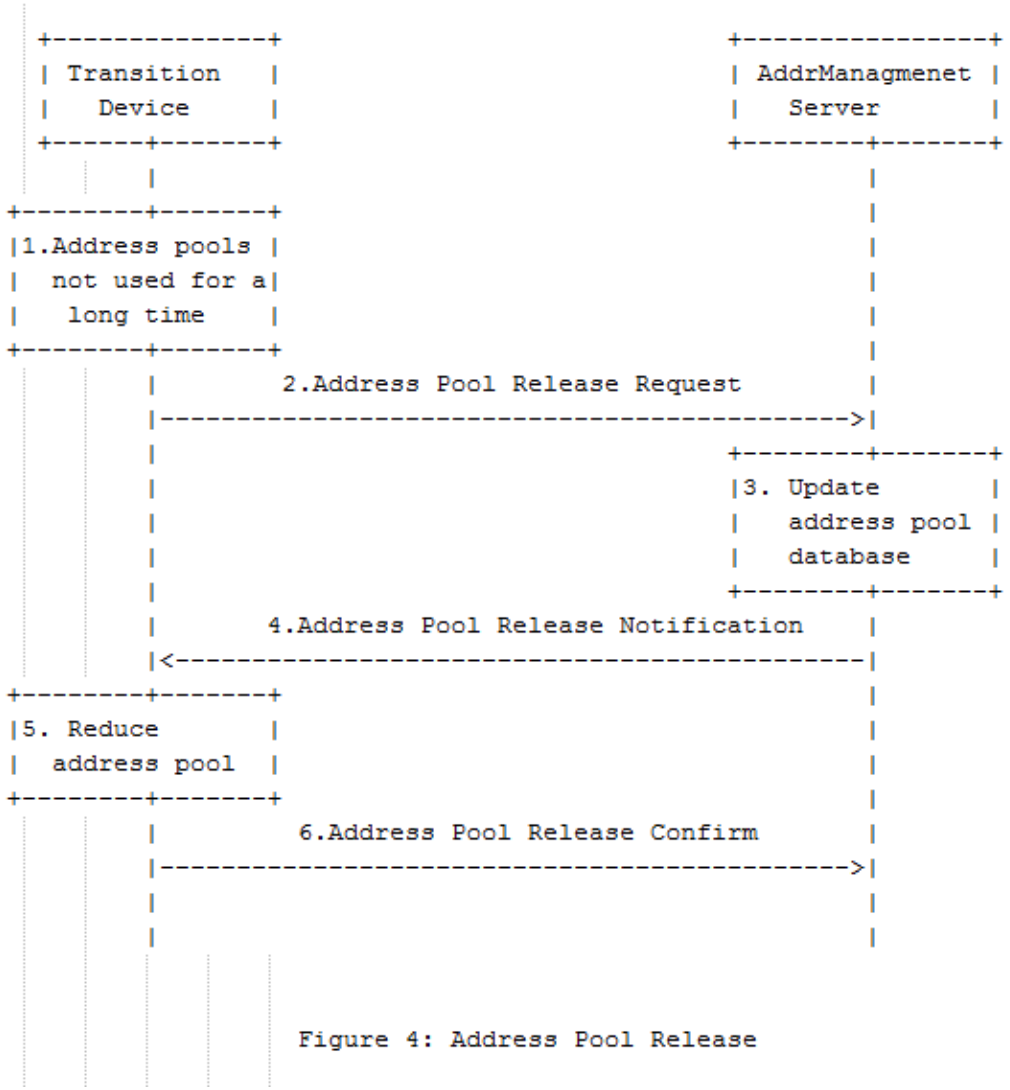


Figure 4: Address Pool Release

Next Step

- Suggestions, Comments ?