Parameter Provisioning with non-DHCP-PD in Carrier-side Stateless Solution

draft-chen-softwire-ce-non-pd-00
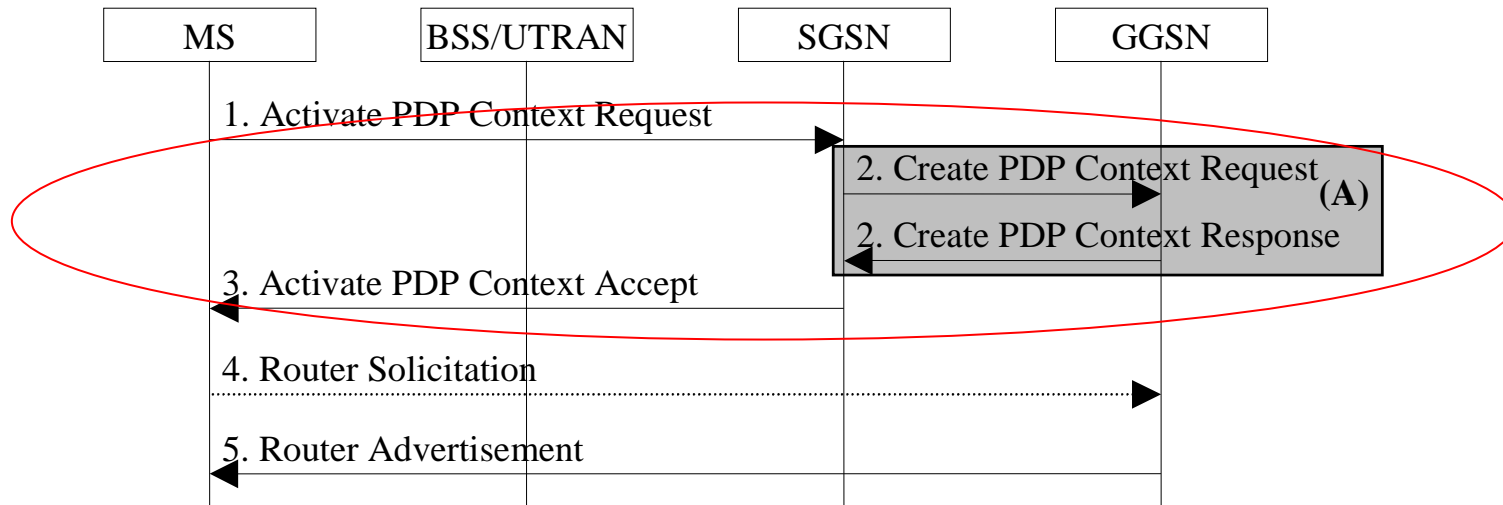
IETF 85- Atlanta, Nov 2012

Gang Chen (chengang@chinamobile.com)

Introductions

- Problems
  - Carried-side stateless solutions (MAP-E, MAP-T and 4rd) presumably delegate IPv6 prefix to CE
  - This mandatory feature couldn't available when mobile network is earlier network before R10, which is mostly the current situation in networks

- Goals
  - Provide several candidate solutions to help parameter provisioning in the networks with non-DHCP-PD supports
  - The group is asked to discuss and converge the preferences on a single solution

Variant 1: Using IID to carry EA-bits

MS	BSS/UTRAN	SGSN	GGSN

1. Activate PDP Context Request

2. Create PDP Context Request **(A)**

2. Create PDP Context Response

3. Activate PDP Context Accept

4. Router Solicitation

5. Router Advertisement

- IID would be carried to the nodes in advance during the PDP activation process
- EA-bits could be inserted in IID as provisioning parameters
- Pros: no changes to 3GPP
- Cons: updates current algorithm

Variant 2: Changing ND behavior to deliver IPv6 prefix

- Extending ND protocol to perform the functionalities of prefix delegation
  - draft-kaiser-nd-pd-00
  - draft-lutchann-ipv6-delegate-option-00.txt
  - draft-haberman-ipngwg-auto-prefix-02.txt
- Pros: no changes to the algorithm
- Cons: new standard efforts to ND protocol

Variant 3: Provisioning the parameters using DHCPv4

- Stateless DHCPv6 to carry rule IPv6 prefix, IPv4 prefix, and etc
- Using DHCPv4 to delivery port information
  - draft-sun-dhc-port-set-option
  - draft-bajko-pripaddrassign
- Cons:
  - new standard efforts to DHCP protocol
  - Algorithm updates are needed

Next Step

- Is it a valid input to WG?
- Should we continue the work?