draft-nachum-sarp-06:
SARP: Proxy Gateway

Youval Nachum   Marvell

Linda Dunbar   Huawei

Ilan Yerushalmi   Marvell

Tal Mizrahi   Marvell

IETF Meeting 87, July 2013

History

▶ **March 2012 – draft 00.**

▶ **Discussion in ARMD mailing list.**

▶ **July 2012 – IETF 84 – presented in INTAREA WG.**
  ▪ Main feedback: need to equally address IPv4 and IPv6.

▶ **October 2012 – draft 03.**
  ▪ More details about SARP with IPv6.

▶ **March 2013 – draft 04:**
  ▪ Address issues discussed at mailing list

▶ **July 2013 – draft 06:**
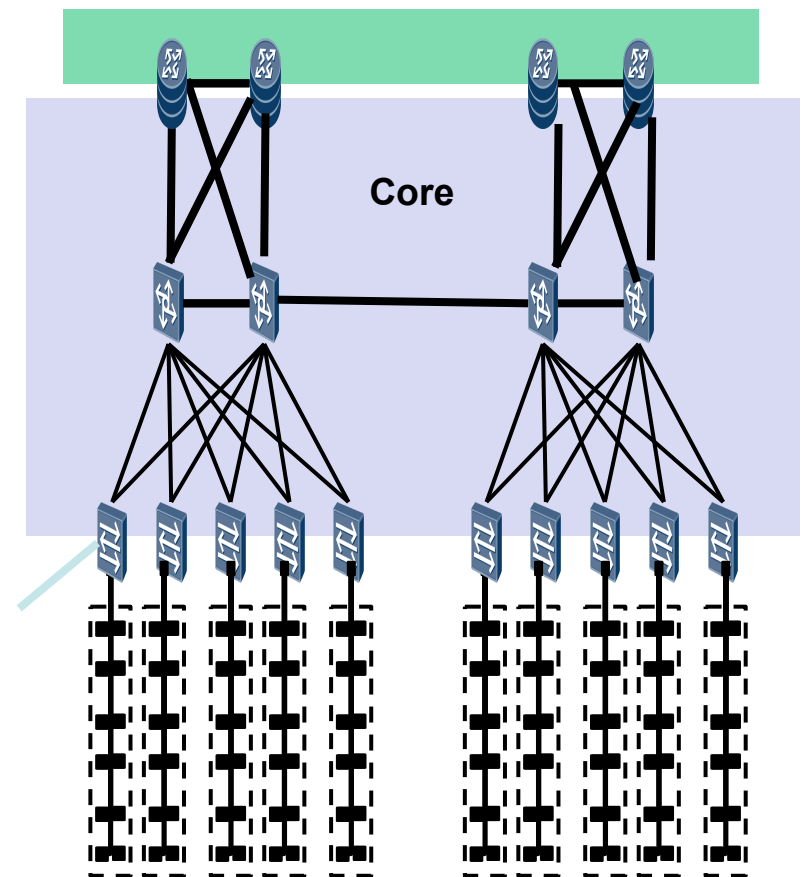 ▪ Explain Proxy Gateway and interaction with SEND

Motivation

▶ **Environment:**

- hosts within one subnet (or VLAN) can spread over various access domains
- Each access domain participates in many VLANs
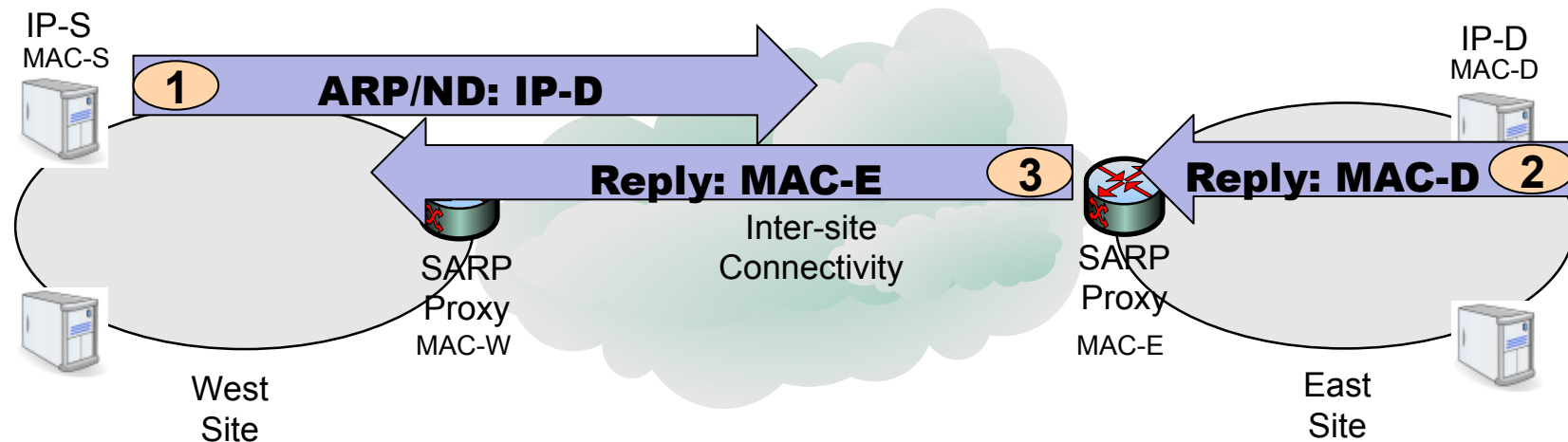- Massive number of VMs, that can move across various physical locations.

▶ **Issues:**

- Switches' MAC address table (FDB) explosion:
  - Even with overlay (NVO3/TRILL/etc), all the overlay edge nodes are still exposed to all the hosts MAC addresses on the VLANs that are enabled on the edges

- the ARP/ND processing load impact to the L2/L3 boundary routers

Core

SARP

▶ **Edge devices: proxy SARP.**

▶ **IP subnet does not imply location.**

▶ **MAC-W / MAC-E imply location.**

IP-S
MAC-S

1 **ARP/ND: IP-D**

Reply: MAC-E **3**

IP-D
MAC-D

Reply: MAC-D **2**

Inter-site
Connectivity

SARP
Proxy
MAC-W

SARP
Proxy
MAC-E

West
Site

East
Site

Complexion when IPv6's SEND is deployed

▶ When IPv6 SEND is used, Access (or Aggregation) switches might not possess knowledge of the attached hosts (VMs)' private keys

▶ **Recommendation in our draft? Any preferences?**

1. state that SARP is not recommended when SEND is deployed;

2. recommend using RFC6496 (Secure Proxy ND Support for SEND).

Next Steps

▶**WG adoption**

Thanks