draft-sajassi-bess-evpn-umr-mobility-00.txt

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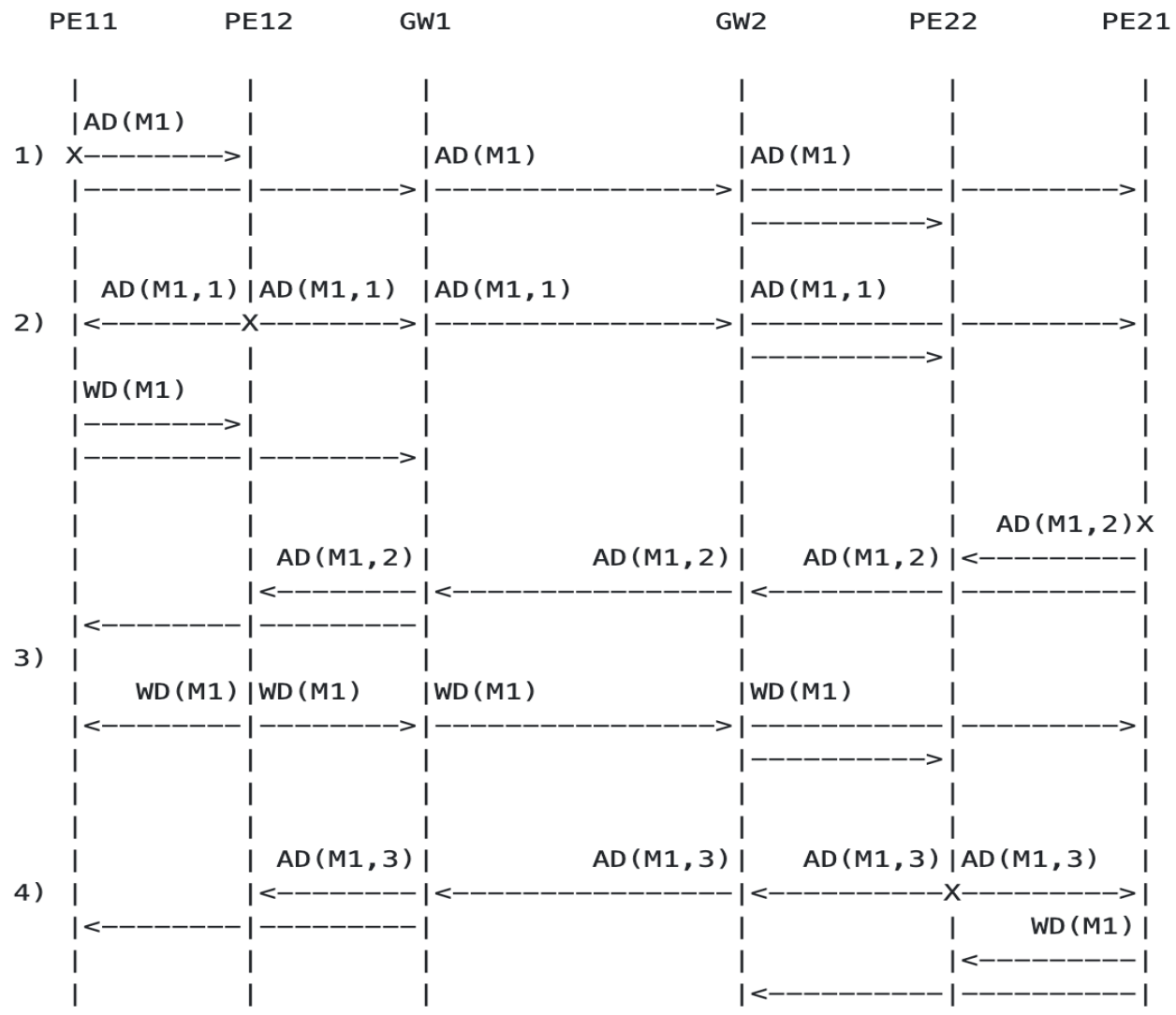
Problem Statement

- Unknown MAC Route (UMR) can be used to improve MAC address scale on leaf nodes (PEs) in a network considerably
  - By limiting MAC address learning on a leaf node to that of its own network (without learning MAC addresses from any other remote networks)
- Interconnect Solution for Ethernet VPN [RFC9014] defines Unknown MAC Route (UMR) utilization for Inter-network connections (e.g., DCI)
- The introduction of UMR breaks MAC mobility

Requirements

1. All leaf nodes (PEs) in a DC need to support UMR
   a) A network can be partitioned into two logical networks – one supporting UMR and the other doesn't
2. Mobility procedure between UMR capable network and non-capable network MUST be seamless
3. UMR support is optional, and a leaf node runs UMR procedures ONLY if it receives UMR route

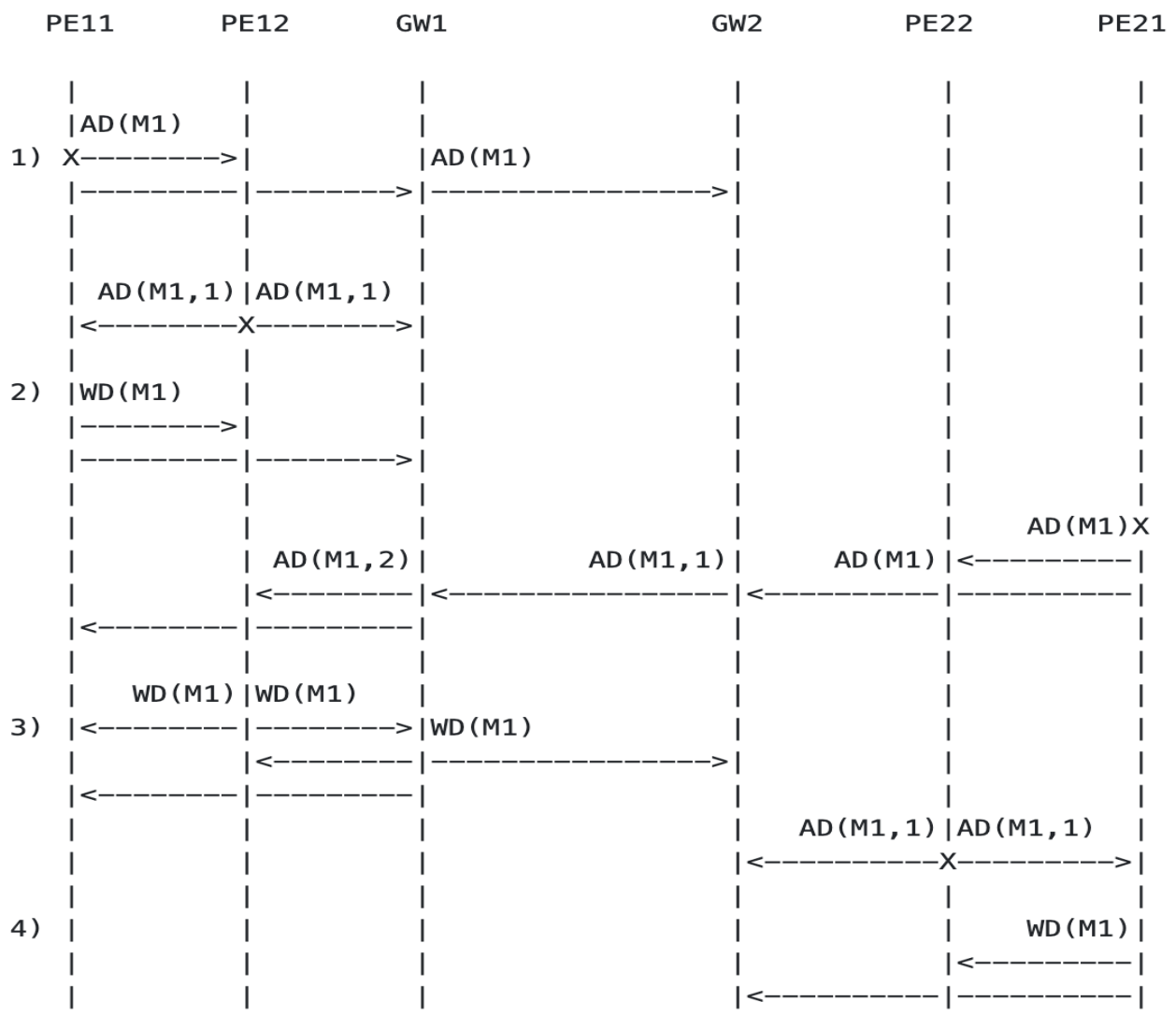
Primer: Inter-network MAC Mobility procedures without UMR



Solution: Inter-network MAC Mobility Procedures for UMR - I

- With UMR, MAC addresses of remote DCs are not propagated to local DCs
- MAC move from remote DC to local DC appears as first-time appearance and not ”move” thus breaking mobility procedures
- To address this issue, two MAC counters are kept in the gateways – one for local DC and the other for DCI network
- These two counters get incremented independently – i.e., a local MAC move (Intra DC) does not affect the DCI counter

Solution: Inter-network MAC Mobility Procedures for UMR - II



Duplicate MAC Address Detection

- Duplicate MAC address detection is per RFC 7432
  - No changes is needed
- MAC counter and timer are kept on the leaf nodes (PE devices)
- No need to keep MAC counter and timer on the gateways unless for MACs that are learned locally

Next Step

- Add the details to the place holder section called ” MAC Mobility for Gateway Local Attachment Circuits”
- Add a new section to show seamless MAC mobility procedures between a network that supports UMR and a network that doesn’t
- Solicit more input from WG

THANK YOU!