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More Clarifications

- While sitting in WGLC queue, we have updated the draft to provide more clarifications based on the questions raised
- Areas that have been clarified
  1. Clarification on staggering advertisements of MAC/IP routes withdrawals upon an ES failure
  2. Clarification for ECMP to MACs sitting behind an All-Active ES: using Ethernet A-D per EVI versus without it
  3. Clarification on MAC duplication issue

1) Staggering MAC withdrawals

Added the following paragraph in 8.2:

- “In order to stagger the advertisement of MP_UNREACH_NLRI messages for MACP/IP Advertisement Route, the advertising PE SHOULD advertise such messages with a delay that is randomized between 0 and MAC ageout timer upon the failure in connectivity of the local ES. Such staggering of the advertisement of these messages helps high priority messages such as Ethernet A-D per ES to be received and processed by the receiving PEs in a timely maner without getting stuck behind a storm of MAC/IP withdrawal messages when the PEs don't support route prioritization as described in Section 7.12”

2) ECMP to MACs in All-Active ES

Added the following text in 9.2.2:

- “In the presence of both a MAC-IP advertisement with a non-reserved ESI and Ethernet A-D per ES routes from PEs in a multi-homing group, load balancing to the advertised MAC from an ingress PE can occur in one of two ways; aliasing through the advertisement of additional Ethernet A-D per EVI route from each multi-homing PEs and at least one MAC-IP route advertisement from one of the multi-homing PEs, or when the PEs attached to the non-reserved ESI each advertise a MAC-IP route without an Ethernet A-D per EVI route. In a multi-homing group, when some PEs advertise Ethernet A-D per EVI routes and some don't and if at least there is one MAC-IP route advertisement from one of the PEs in the group, then the traffic destined toward that MAC/IP is load balanced among the PEs that have advertised Ethernet A-D per EVI. If none of the PEs have advertised Ethernet A-D per EVI route, then the load balancing of the traffic destined toward that MAC/IP is done

2) ECMP to MACs in All-Active ES – Cont.

Added the following examples in 9.2.2:

- “T4 If after T3, PE1 and PE2 both advertise a MAC route for M1, but PE1 withdraws its Ethernet A-D per EVI route, then PE3 forwards traffic destined to M1 to PE2 only.
- T4' If after T3, PE1 and PE2 both advertise a MAC route for M1, but PE1 withdraws its Ethernet A-D per EVI route and PE2 withdraws its MAC route for M1, then PE3 forwards traffic destined to M1 to PE2 only.
- T5 If after T4, PE2 withdraws its Ethernet A-D per EVI route, then PE3 forwards traffic destined to M1 to PE1 and PE2, solely based on the advertised reachability of the Ethernet MAC/IP routes for M1 and the Ethernet A-D per ES routes for the Ethernet Segment from PE1 and PE2.”

3) MAC Duplication Issue

- Added the following text in 15.1:
- ”It should be noted that MAC duplication issue can also happen among different ESes of the same PE. In such as scenario, the impacted PE does not need to increment the sequence number in (MAC Mobility extended community). The PE readvertises MAC/IP Advertisement route with the new ESI without any withdrawal for that MAC/IP address if it determines that there is no MAC duplication, and the host has moved locally to the new ESI. The mechanism for local loop prevention and MAC duplication detection on the same PE is a local implementation matter.”

Next Step

- Authors would like to request the WGLC to be expedited