Problem space

- We discussed during the 82\textsuperscript{nd} IETF in Taipei that active-active forwarding at the TRILL LAN edge as a typical deployment in Data centers.
- It was identified that a solution is required to solve potential RPF issues
- Group of Volunteers were nominated to propose a solution.
- draft-tissa-trill-cmt-00 and this presentation are work of the team.
Background

- RFC 6325 specifies methods to construct multi-destination trees and deriving the RPF states.
- The multi-destination trees are derived based on fixed parameters such as link-cost, system-id, nickname etc.
- There is no flexibility to associate a different path than the fixed algorithm mandates.
- Methods proposed in this document allows to associate RBridges to a different path than the fixed algorithm proposes.
Issue: Cause MAC flip-flops when multiple flows hash to different RBridges
Active-Active edge with virtual RBridge

**Solve**: MAC flip-flops
**Issue**: Under certain conditions RBv may fail RPF when ingress through some RBridges
Notice: There is no tree that RBn can forward traffic with RBv as the ingress nickname. Hence RBn can not forward multicast, broadcast, unknown unicast that it is receiving from CE nodes.
Active-active edge with virtual RBridge and Affinity TLV

**Solve:** MAC flip-flops  
**Solve:** RPF failures

Associate RBv to Tree-1 via RB1  
Associate RBv to Tree-2 via RB2  
Associate RBv to Tree-3 via RB3
Notice: Each edge Rbridge RB1 to RBn has a multi-destination tree Tx that itself is the parent for RBv.
Conclusions

- Solve RPF issues at the active-active edge
- Potential other applications
- Sub-TLV definitions are included in the rfc636bis
- Backward compatibility: Refer to Section 5.7
- Less number of Trees: Refer to Section 5.4.1
Next Steps

- Requesting to Move in to a Working Group document status