MIRP Signaling Extension for Registering the association between Customer MAC and I-Components' Backbone MAC addresses through NMS

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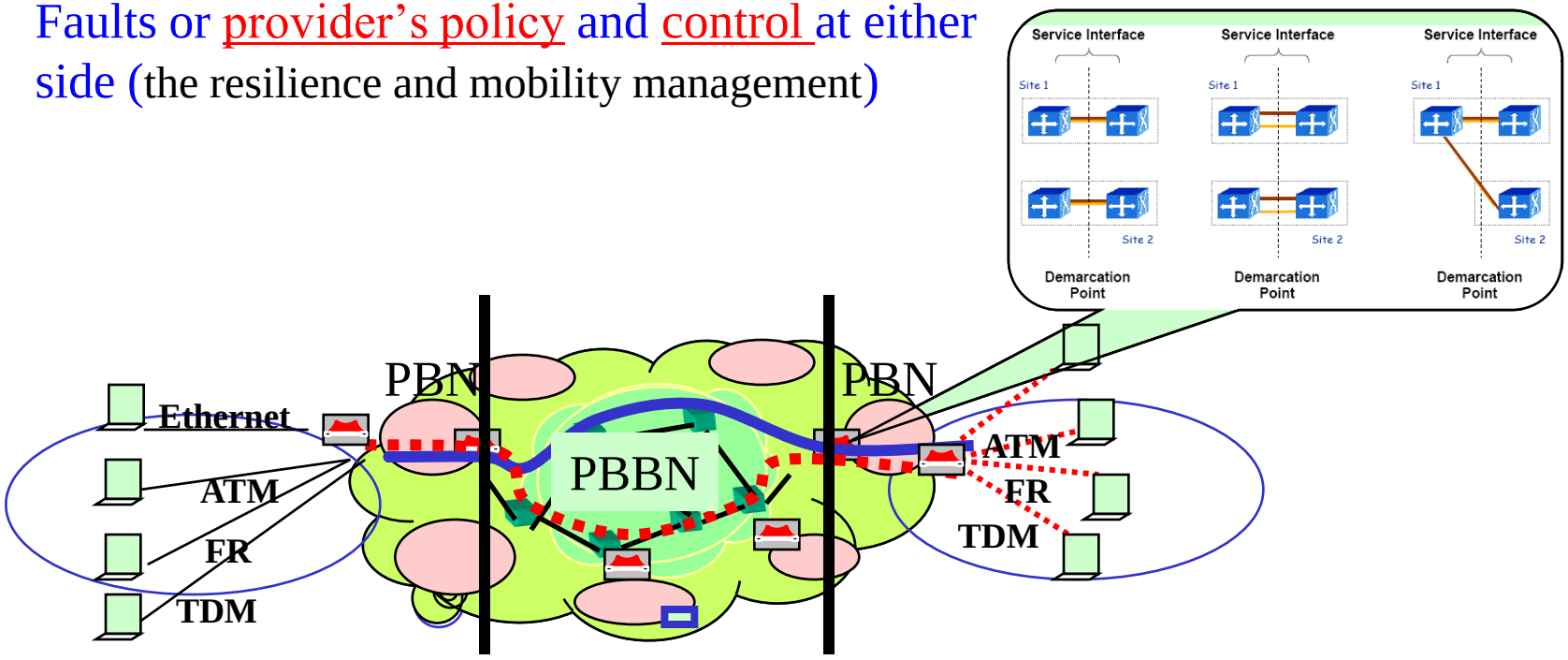
Agenda

- Requirements
  - decouple PBN and PBBN for topologies and protocols
- Protocol over the demarcation point
  - update the change of topologies through MVRP.
  - send the change of topology for either side of interface through MIRP.
- Problem Statement
  - no specification of the NMS signaling protocol for registering the initial association in MIRP.
- Recommendations
  - the need to register the associations between customer-space MAC addresses and B-Space I-Component MAC address through the NMS

Requirements

- We Must decouple PBN and PBBN for topologies as well as protocols.
  - Then the topology can be changed due to Network Faults or provider's policy and control at either side (the resilience and mobility management)



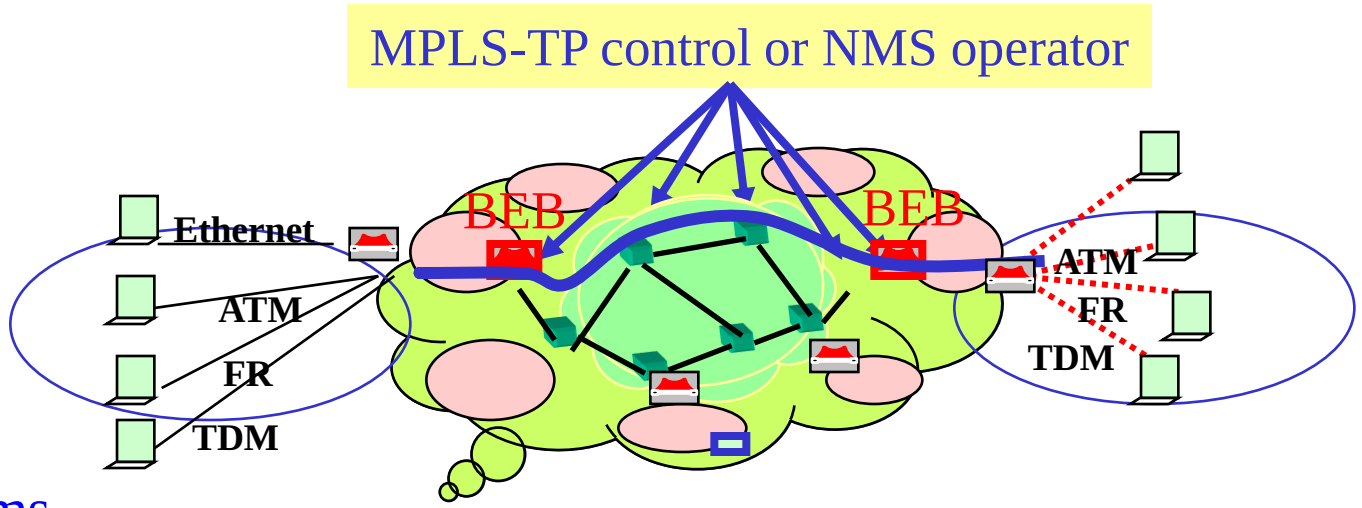
Demarcation Point

Protocols over Demarcation Point

- Specify Protocols over demarcation point for I-BEB-PBBN
  - MVRP will be needed to exchange related entries in the FDB.
    - For example, if a user-xSTP changes the topology of an user bridged LAN, the provider bridges must clear related entries in the FDB(Filtering Database). Then the provider bridges also update the change of topologies in the network through MVRP.
    - Optionally MSTP/SPB/others can be also used as access protocol
  - MIRP has been proposed to send the I-SID (B-MAC) update for either side of interface for 802.1ah.
    - Within PBBN, we keep state tables in the I-components which map C-MACs to B-MACs (and S-VIDs to I-SIDs).
    - If a user-xSTP changes the topology of an user bridged LAN, therefore the provider bridges provide a method (protocol) for updating the remote state (New MVRP protocol for updating remote I-SIDs).
    - MIRP needs ability to send the change of topology for either side of interface across PBBN.

Problem Statements-NMS

- Current Environment
  - MPLS-TP or NMS has a fairly static picture of the provisioned network, which is used to start the configuration for the association between customer-space(S-VID) MAC address and B-space (I-SID) I-component MAC address.



- Problems
  - The NMS must register the state of the BEBs of the PBBN even if MIRP updating the filtering database of the I-Components due to the topology change.

Recommendations

- There is no way to specify the MIRP signaling protocol to NMS for registration/update the start of configuration or the topology change in 802.1ah.
  - Since new association (connection) has been established by the NMS, so the NMS should have the up-to-date information about the I-component topology as well as customer-space MAC addresses.
- If we are specify the MIRP protocol, certainly add
  - Signal the need to register and update the associations between customer-space MAC addresses and B-Space I-Component MAC address through the NMS.
  - Discovery protocol of I-Components belonging to the S-VLAN across the backbone through the NMS.
  - Configuration of I-Components through the NMS

Thanks for your attention!