Diagnosing Segment Connectivity of PBB-TE TESIs

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On-demand ESP Segment Connectivity Diagnostic

- Need: To identify the location of a TESI fault.
- Method:
  - TESI’s route is determined by NMS.
  - Progressively test connectivity to points along the TESI’s path.
  - Flexible segment connectivity tests can be performed using DDCFMD

![Diagram showing segment connectivity with a fault marked by an 'X'.]
Using CCM RR to Test Segment Connectivity

- Test TESI segment or forward ESP segment
- Configure and activate RR to filter CCM at desired test point.
  - Use continue option (don’t disrupt CCM fault detection)
  - Choose duration (e.g., 3 CCMs).
- The RR can be activated by system administer when there is a need to diagnose a segment.

Create an RFM Receiver to receive the RFM with CCM as content

Create a RR to filter CCM for an ESP (e.g., with FrameCount=3).

Use reverse ESP to return RFM.
Extra Benefit of using CCM RR to test segment connectivity

• Test individual ESP segment

Create an RFM Receiver to receive the RFM with CCM as content

Create a RR to filter CCM for an ESP (e.g., with FrameCount=3).

Use other VLAN (e.g. the VLAN which is protected by STP) to return RFM.
Conclusion

- DDCFM provides simple and flexible diagnostics for TESIs
  - Doesn’t require intermediate ports to process anything extra
  - Provide a segment diagnostics tool for networks without MIP supported
- A CCM RR can be used to test TESI segment connectivity
- Proposal:
  - Add a subclause under 26.9.5 (PBB-TE enhancements of CFM protocols) to specify behavior of CCM based RR and RFM Receiver