To Achieve 50ms Protection Switching for PBB-TE TESI

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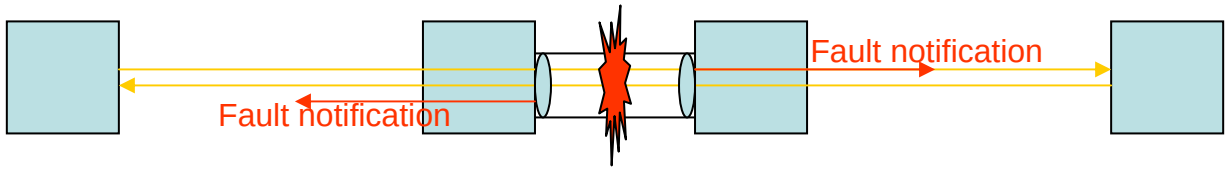
It is impossible to achieve 50 ms protection switching if the switching is trigged by not receiving 3 consecutive CCMs

- **Steps for protection switching in PBB-TE:**
  - **Fault detection at the destination node** (not receiving 3 consecutive CCMs)
  - **Source receiving the CCM with RDI set**
  - **Source node switching traffic from one ESP to another ESP**
- **The Switch Initiation Time** (i.e. the time that it takes the source node trigger switching) **for PBB-TE is**
  - Time to detect the fault at destination + Time to signal to the source node
- **Bellcore GR253 requires Switching Initiation Time to be less than 10ms** (R5-41) to leave 40ms to switch traffic
- **What is left for fault detection?**
  - **Maximum: 5 ms** (most likely will be less if it takes more time for signal to go from Destination to Source)**.**
  - **To detect 3 consecutive lost CCM within 5 ms requires CCM to be sent less than 1ms interval, which is less than the minimal time interval for CCM.**

More realistic approach to trigger PBB-TE protection switching

- **Let the intermediate ports adjacent to the failure send a fault indication message to both ends for all the ESPs traversing through the interfaces.**



- **Many options of Fault Notification Message:**
  - **Intermediate interface re-send the last CCM with fault indication bit set, or**
  - **Adopt MAC status message from .1aj to indicate the fault, or**
  - **Create new CFM message for fault notification purpose.**
- **Fault Notification Message is a quicker way for source to detect the failure to initiate switching.**
  - **Use the mechanism defined in Qay for fault clearing.**
  - **Therefore, it is not necessary to send Fault Notification Message continuously.**