Need clarification on the role of "MAIDs" in PBB-TE CFM

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MAID's role in CFM

- MAIDs identify MAs in CFM.
- MAIDs are 48 octet fields in CCM frames.
- 802.1ag has several formats for MAIDs.
- Non PBB-TE CCMs use multicast DAs.
- MAIDs are checked in CCM to detect CFM cross-connects because of misconfigurations between MDs or wiring errors.
- Cross connect errors are detected by comparing CCM fields in the received CCM with the MEP's configured values.
- We believe uniqueness of MAIDs and use of multicast DAs are both required for detecting the types of cross-connects mentioned in 802.1ag draft 8.1 section 20.1

Specifics of PBB-TE CFM

- Automatic Protection Switching in PBB-TE are driven by CBP CFMs.
- CFM MAs need to be defined for each TESI protecting a group of ESPs between MEPs.
- Section 19.2.1 of Qay draft 3.0 on “MEP Identification” says ESP 3-tuple, MAIDs are derived from MA bridge object.
- This implies one to one relationship between MAs, hence MAIDs, and PBB-TE ESP 3-tuple.
- So, number of MAIDs = number of TESIs = proportional to number of RMEP pairs.
- So, number of MAs that need to be supported in PBB-TE can be very large.
- CBP CFMs linked to ESPs are addressed by ESP 3-tuple (<ESP_DA, ESP_SA, ESP_VID>)

Role of CCM MAID fields in PBB-TE

- Section 20.1 of Qay draft 3.0 identifies that “accidental cross-connect detections” done through MAID comparisons in “non PBB-TE CCMs” can be achieved by checking ESP_SA in PBB-TE CFMs.
- PBB-TE CCMs are transported along the same configured path as the data frames. All paths in PBB-TE are explicitly configured. Data frames and CCM frames require consistent setup from a out of band entity.
- Obviously, for MAID compare to fail wrong CCM has to be received over a configured path.
- Has the cross-connect scenario for PBB-TE looked in to in detail or at this point it is a simply inherited from non PBB-TE CFM?
- To avoid having to configure of large number of MAIDs, MAID fields may be automatically generated from ESP 3-tuple fields just to conform to the CCM specifications.
- Would automatic generation of MAIDs be acceptable just to generate compliant CCM frame?
- In this case MAID itself would not be adding any new information.

Role of CCM MAID fields in PBB-TE

- As PBB-TE CCMs are validated by ESP 3-tuple, is MAID check adding any further value?
- Is it detecting any other types of misconfigurations?
- Is it a redundant information in CCM frames, and a redundant check?
- Even in Pt to Mpt ESP CCM scenario, we believe MAIDs are redundant information.
- If MAID fields are not adding value, should the MAID check, and it's presence in CCMs, be mandatory?
- It has to be recognized that here is burden to supporting large number of MAIDs in terms of on-chip storage.
- Also, it is a burden to carry 48 octets and check full MAID fields while processing PBB-TE CCMs.

Options to consider

- If MAIDs in CCM add no value, they should be specified as an optional field in the PBB-TE CCMs.
- Because PBB-TE CFM is tied to APS, every effort should be made keep CCM light weight.
- Other options like: making only few octets out of MAID fields as configurable?