

# Multiple Fabric Names in a single VLAN

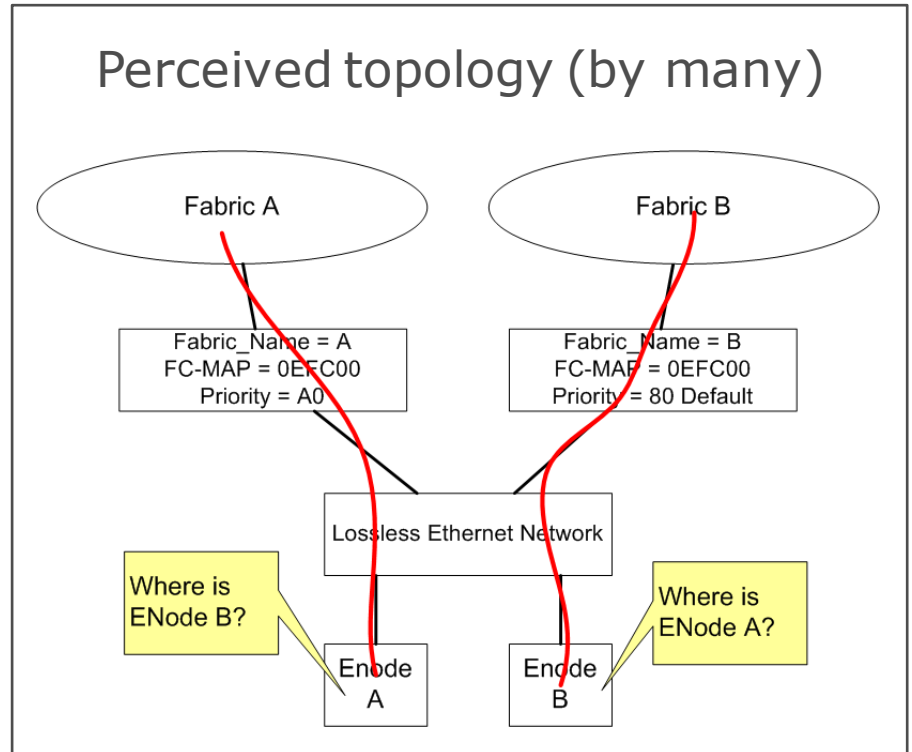
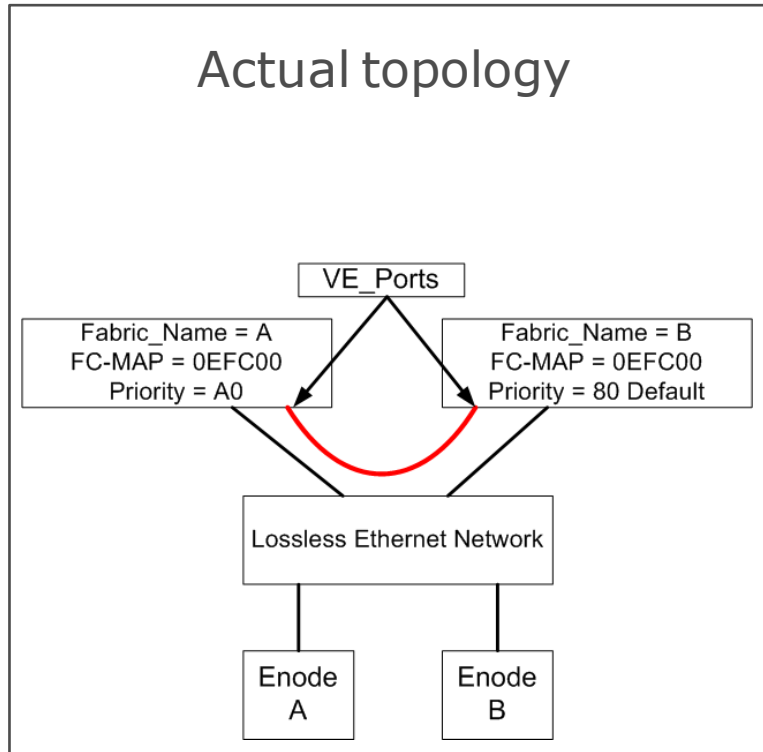
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# Problem

- A problem was observed during the FCoE Plugfest at UNH-IOL.
  - Two FCFs were transmitting Advertisements onto the same VLAN and each contained different values for Fabric\_Name in the FIP Fabric Descriptor.

# Problem (cont)

- ENode's view of the world



# Problem (cont)

- Most implementers believed that the fabrics should have merged and eventually Advertised the same Fabric\_Name.
  - Others believe that the standard does not require the fabrics to merge.
- FC-BB-5 does not
- When FC-BB-5 was consulted to resolve the conflict, the following text was found in 7.9.1:
  - Support for multiple Fabrics per VLAN is outside the scope of this standard.
  - NOTE 16 – The security provisions of this standard are not sufficient to ensure that FCoE frames remain associated with the correct Fabric if multiple Fabrics are used on the same VLAN.
- In conflict with this 7.9.3.2 seems to prohibit multiple fabric names on a single VLAN.
  - Reception of Discovery Advertisements for more than one Fabric on the same VLAN should be reported by an ENode MAC in a vendor specific manner and no subsequent VN\_Port to VF\_Port Virtual Links should be instantiated.

# Problem (cont)

- Based on 7.9.3.2, *“Reception of Discovery Advertisements for more than one Fabric on the same VLAN should be reported by an ENode MAC in a vendor specific manner and no subsequent VN\_Port to VF\_Port Virtual Links should be instantiated”*; an ENode MAC would login with the first FCF from which it received a Discovery Advertisement. In this case the operation of this configuration is timing dependent as to whether the two ENodes login in to the same FCF and can communicate or login to different FCFs and cannot communicate.
- At the plugfest we saw this random operation resulting in one set of hardware establishing ENode to ENode communication at one time and not establishing ENode to ENode communication at another time.

# Potential Solution

- Add text to FC-BB-6 that covers this case.
  - Also, describe how to handle the case where an FCF is added to an existing FCoE VLAN.
- Require that multiple FCFs connected to a single VLAN establish a VE\_Port connection and resolve to a single fabric name
  - If a FCF receives a Discovery Advertisement from another FCF the FCF shall establish a VE\_Port with the other FCF

# Points to consider

- A new FCF joins the VLAN and then the fabrics isolate during the Build Fabric process (e.g., zoning problem).
  - Multiple FCFs with different Fabric\_Names will exist in the VLAN
- Multiple FCFs with different Fabric Names is a normal (transient) condition when a new Fabric is added to a VLAN before the VE\_Ports are formed.
- In either case, an ENode could come on line and log into both FCFs
  - What happens when the Fabric Name changes on the FCF that an ENode logged in with?
    - The FCF should be required to send a FIP Clear Virtual Links frame

# Points to consider

- Should FCF "A" allow a login from an ENode in a VLAN that already contains another FCF "B"?
  - If yes, then duplicate FPMAs can result. In fact if the fabric segments for Domain ID overlap, you will probably end up with duplicate FPMAs.

# Questions?