

FC-BB-6: New FCoE Functionality

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- Project proposal scope
 - Support for VN_Port to VN_Port virtual links
 - Investigate improvements in support for high BER Ethernet transmission media (e.g., 10GBASE-T)
 - Any other item(s) deemed necessary during the development of the standard

- What's Gone ?
 - SPMA
 - Informative annex for pre-FIP Virtual Link instantiation

- What's New ? (at this point 😊)
 - VN_Port to VN_Port (VN2VN)
 - Data path enhancement(s)
 - Single Domain_ID FCoE Fabric

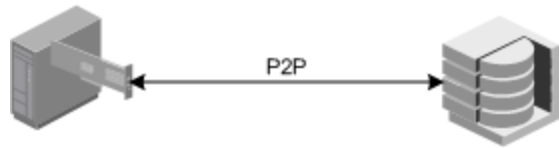
- ❑ Current status
 - ❑ VN_Port to VN_Port complete
 - ❑ Much discussion (continues) on data path functionality
 - ❑ “Short-cut routing”
 - ❑ Single Domain functionality is basically agreed upon other than routing capability within the Single Domain, but much work remains

FC-BB-6: VN_Port to VN_Port

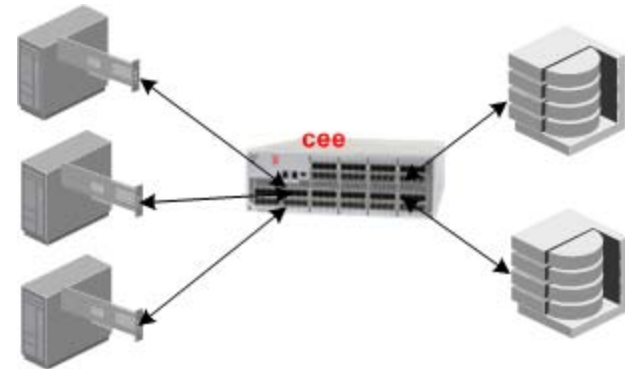
- ❑ VN_Port to VN_Port (VN2VN)
 - ❑ Point-to-Point (P2P)
 - ❑ Point-to-Multi-Point (P2MP)
 - ❑ Equivalent to FC Arbitrated Loop 😊
 - ❑ Intended for isolated/dedicated networks
 - ❑ Limited number of ENode(s)

FC-BB-6: VN_Port to VN_Port

□ Point-to-Point (P2P)



□ Point-to-Multi-Point (P2MP)



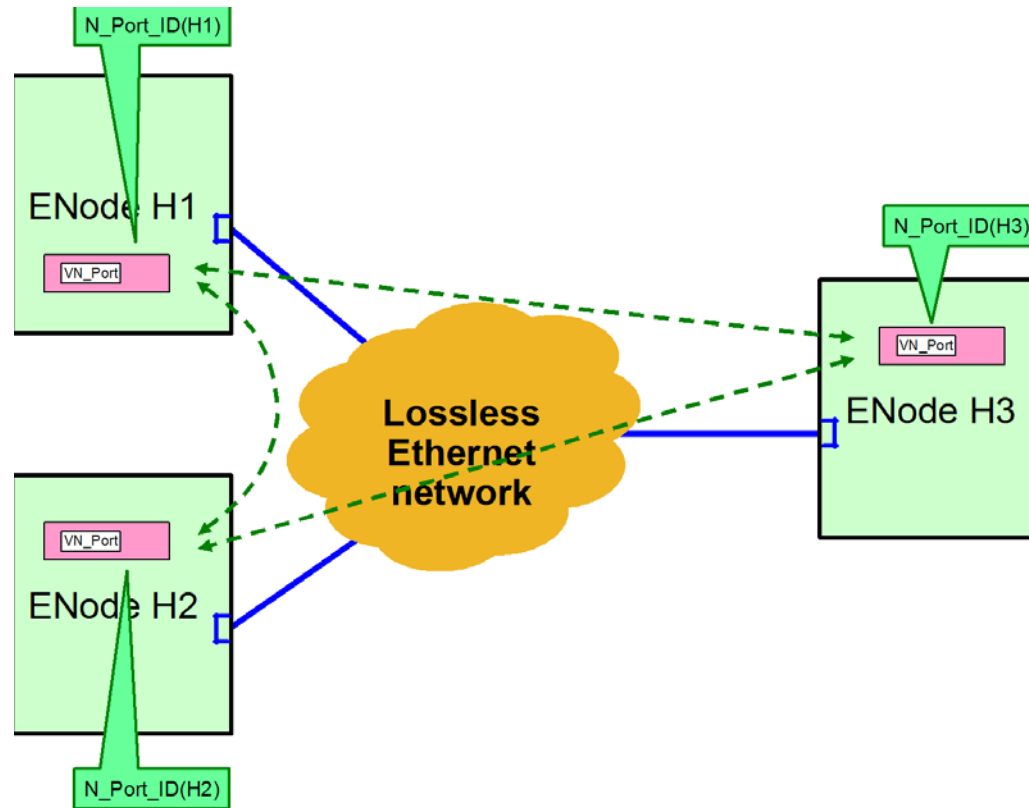
- VN2VN_Port(s)
 - FPMA
 - (VN2VN-FC-MAP || Locally Unique N_Port_ID)
 - VN2VN-FC-MAP = 0EFD00h
 - Locally Unique N_Port_ID(s) are generated in the range 000001h to 00FFFEh
 - Generation algorithm based on RFC 3927 (Dynamic Configuration of IPv4 Link-Local Addresses)

□ P2P and P2MP Protocol

- If an FCF is detected and the VN2VN ENode MAC is configured to operate in P2P mode, the ENode MAC operates in Fabric mode and P2P protocol stops
- If an FCF is detected and the VN2VN ENode MAC is configured to operate in P2MP mode, the ENode MAC may operate in Fabric mode or in concurrent mode (i.e., VN_Port and VN2VN_Port)

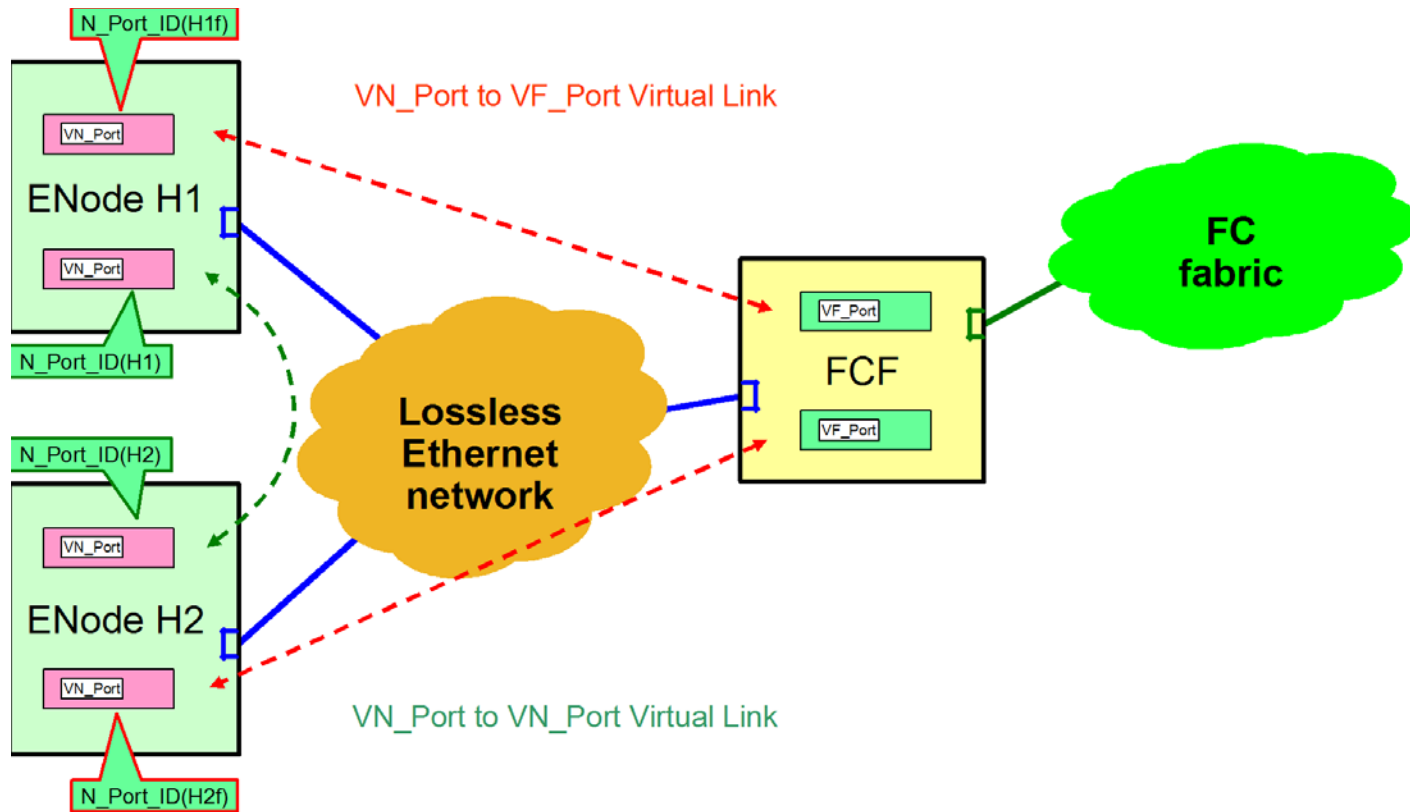
FC-BB-6: VN_Port to VN_Port

VN_Port to VN_Port Reference Model



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VN_Port to VN_Port Reference Model



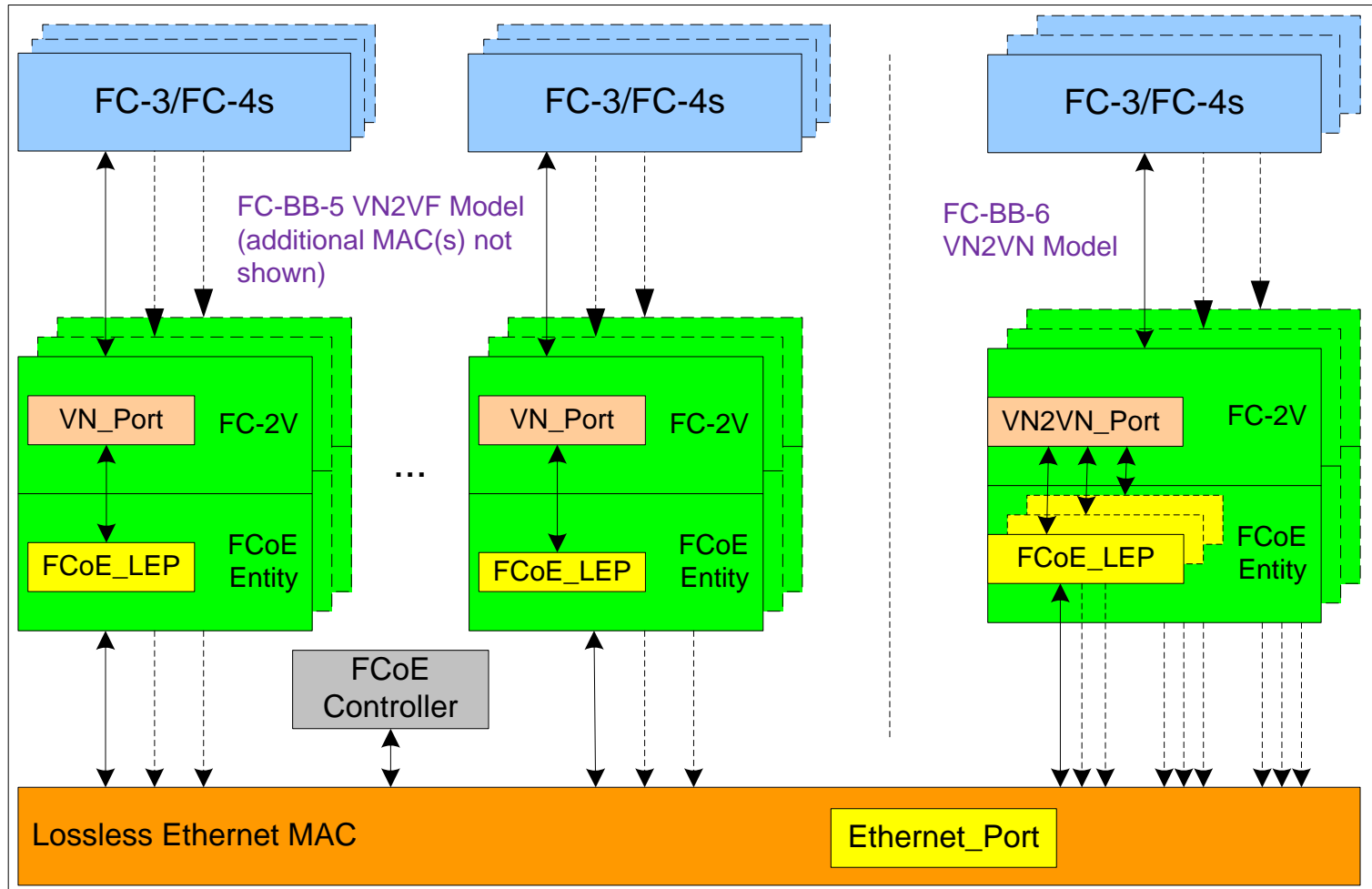
□ ENode Requirements

- Must support VN2VF and VN2VN Virtual Links
 - Any instance of a VN_Port operates as either a VN2VF_Port or VN2VN_Port (i.e., not both)
- There is no communication between a VN2VN_Port and VN2VF_Port
 - VN2VN_Ports are not present in the VN2VF_Port topology
 - VN2VF_Ports are not present in the VN2VN_Port topology
- Must support one or more VN2VN_Port(s) via a single ENode MAC

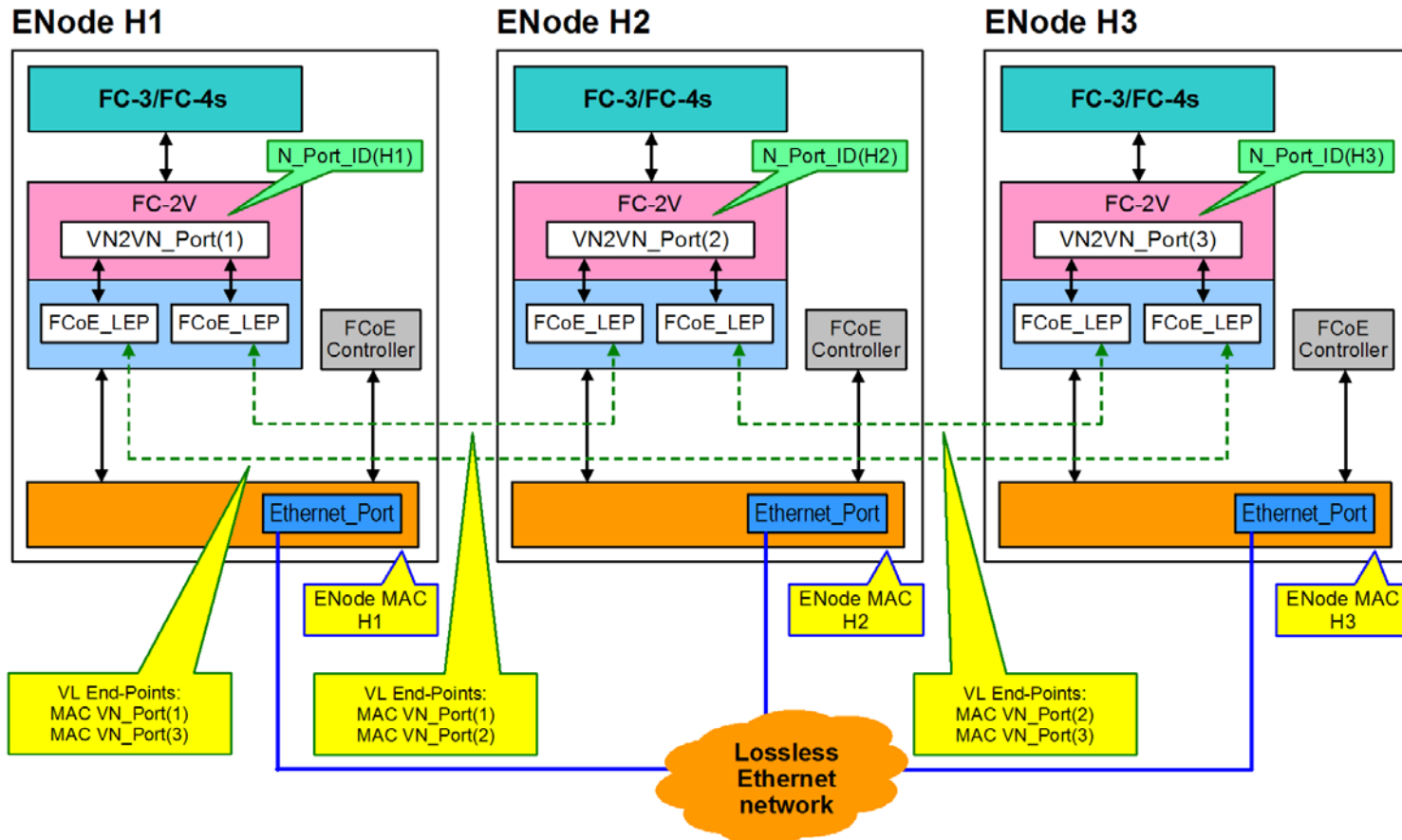
- VN_Port Requirements
 - Single VN2VN_Port and FCoE_LEP in P2P
 - Multiple VN2VN_Port(s) in P2MP
 - Each VN2VN_Port instance has one or more FCoE_LEPs

FC-BB-6: VN_Port to VN_Port

ENode Functional Model(s)

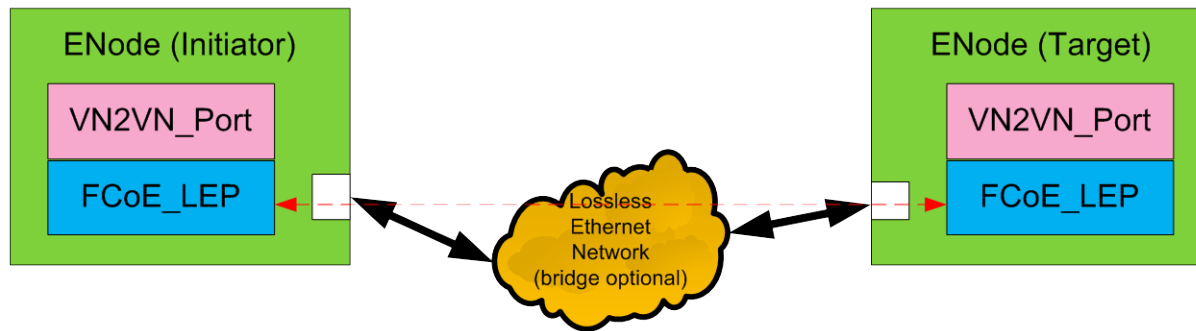


FC-BB-6: VN_Port to VN_Port



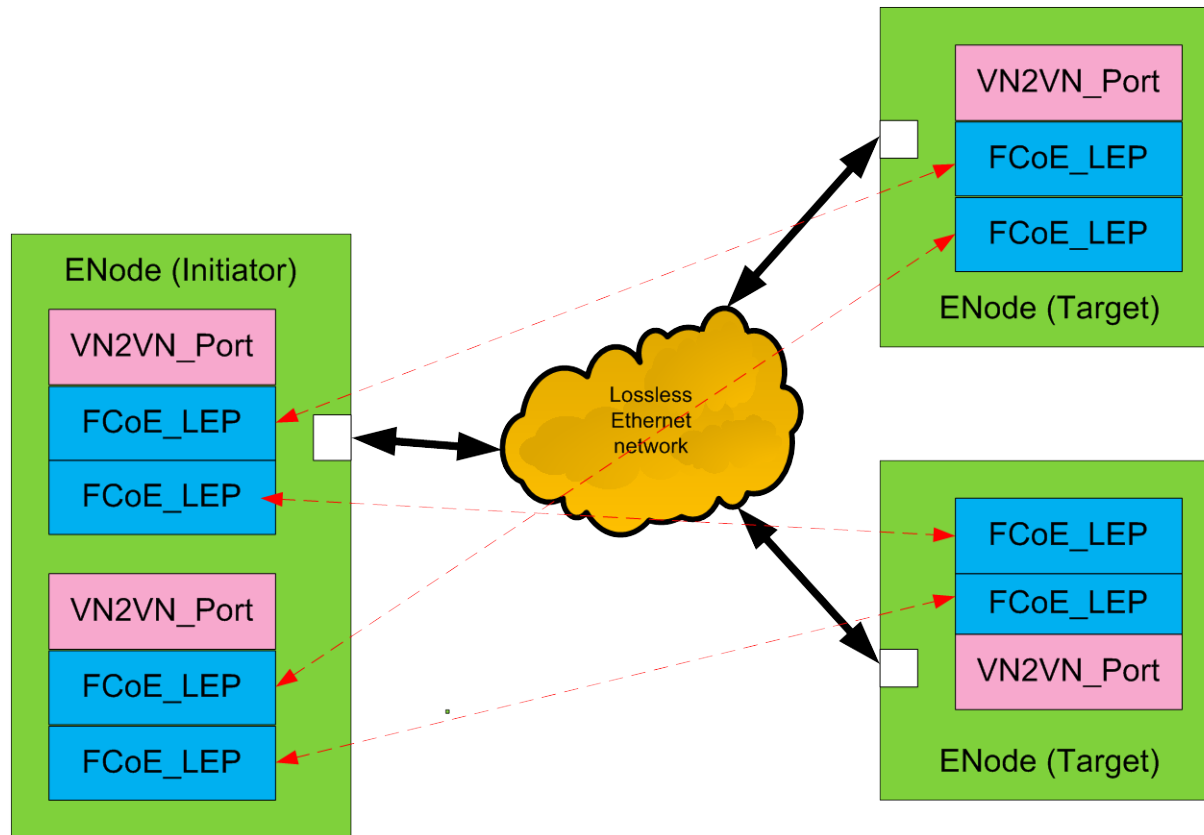
FC-BB-6: VN_Port to VN_Port

P2P Example -
2 ENode(s) with single VN2VN_Port at each ENode



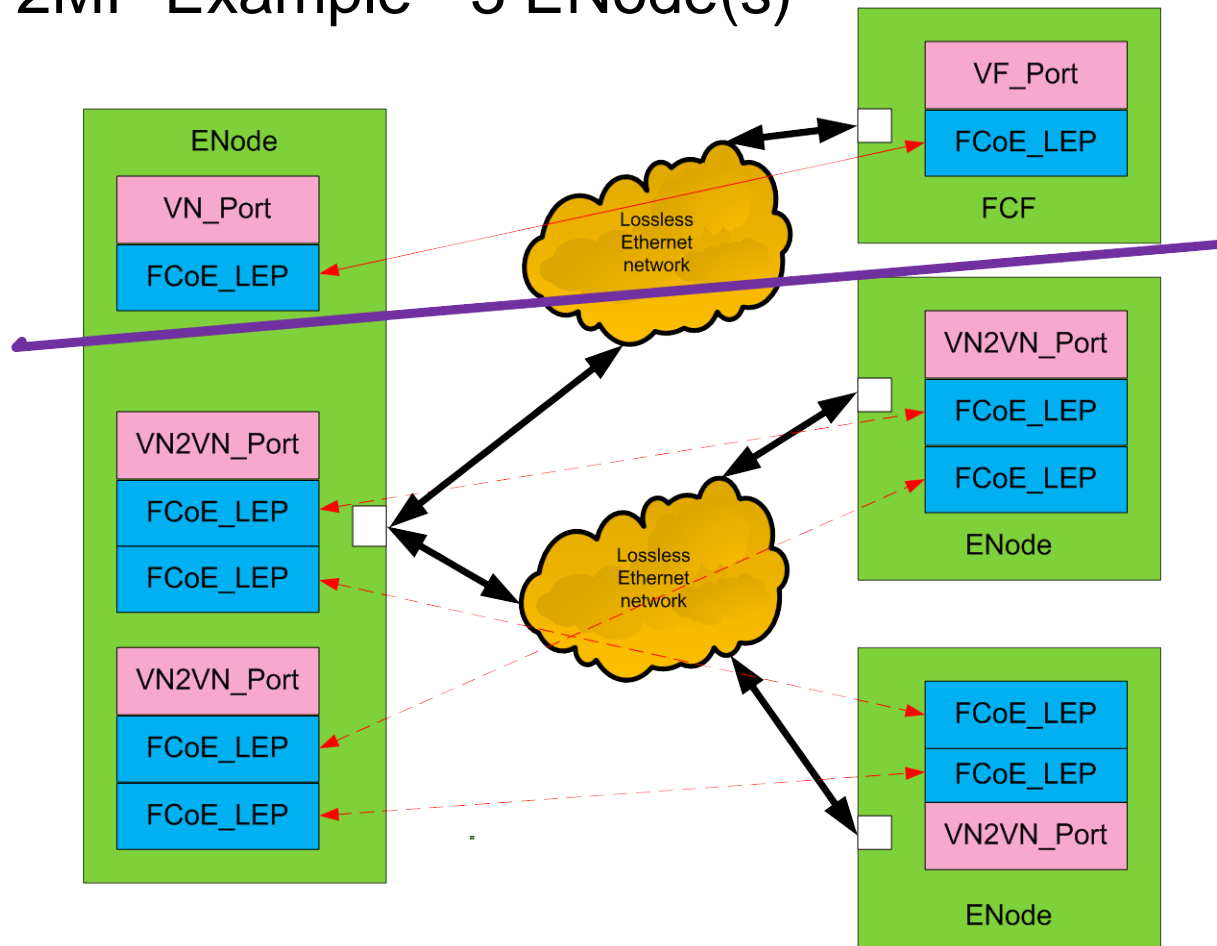
FC-BB-6: VN_Port to VN_Port

P2MP Example - 3 ENode(s)

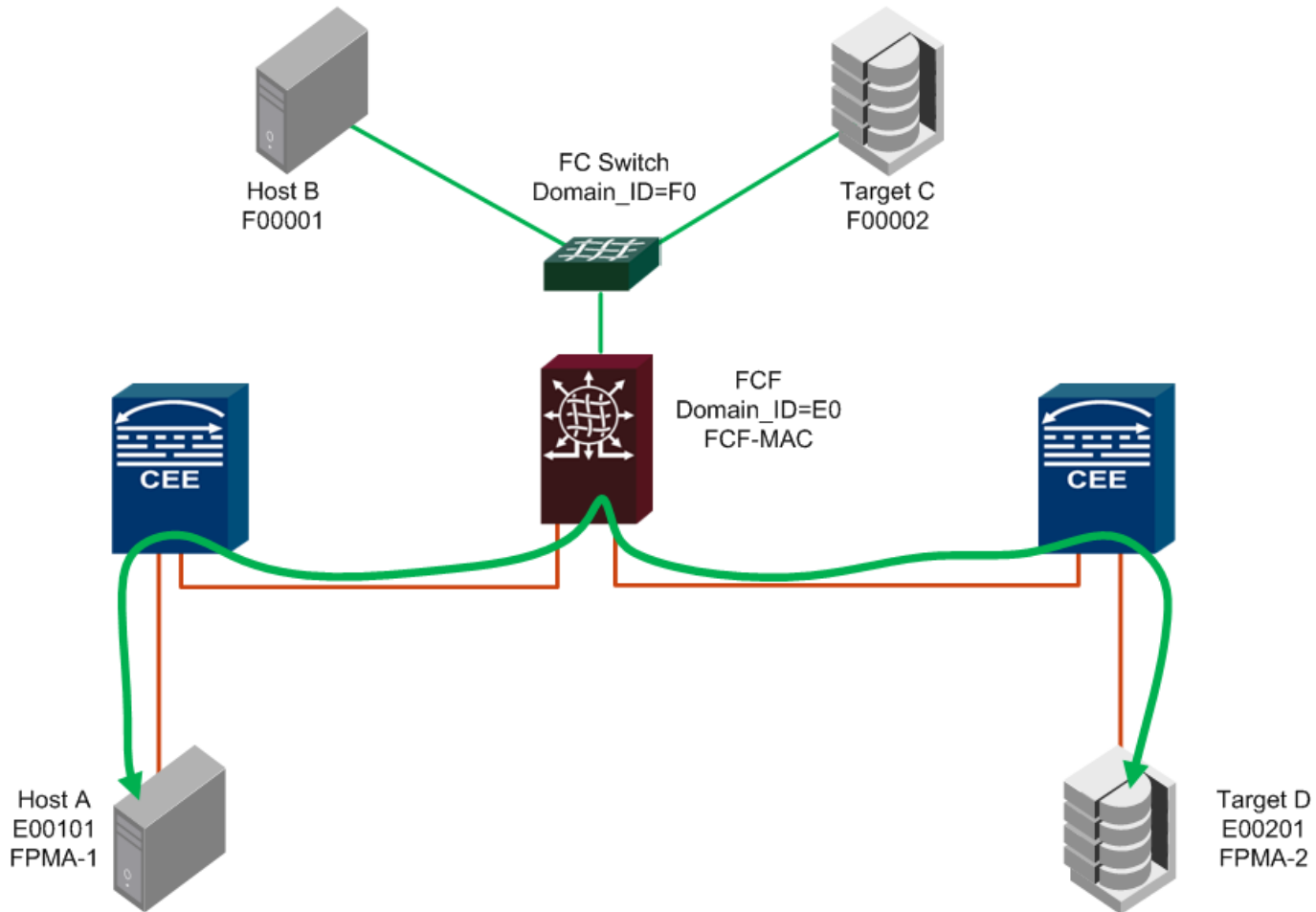


FC-BB-6: VN_Port to VN_Port

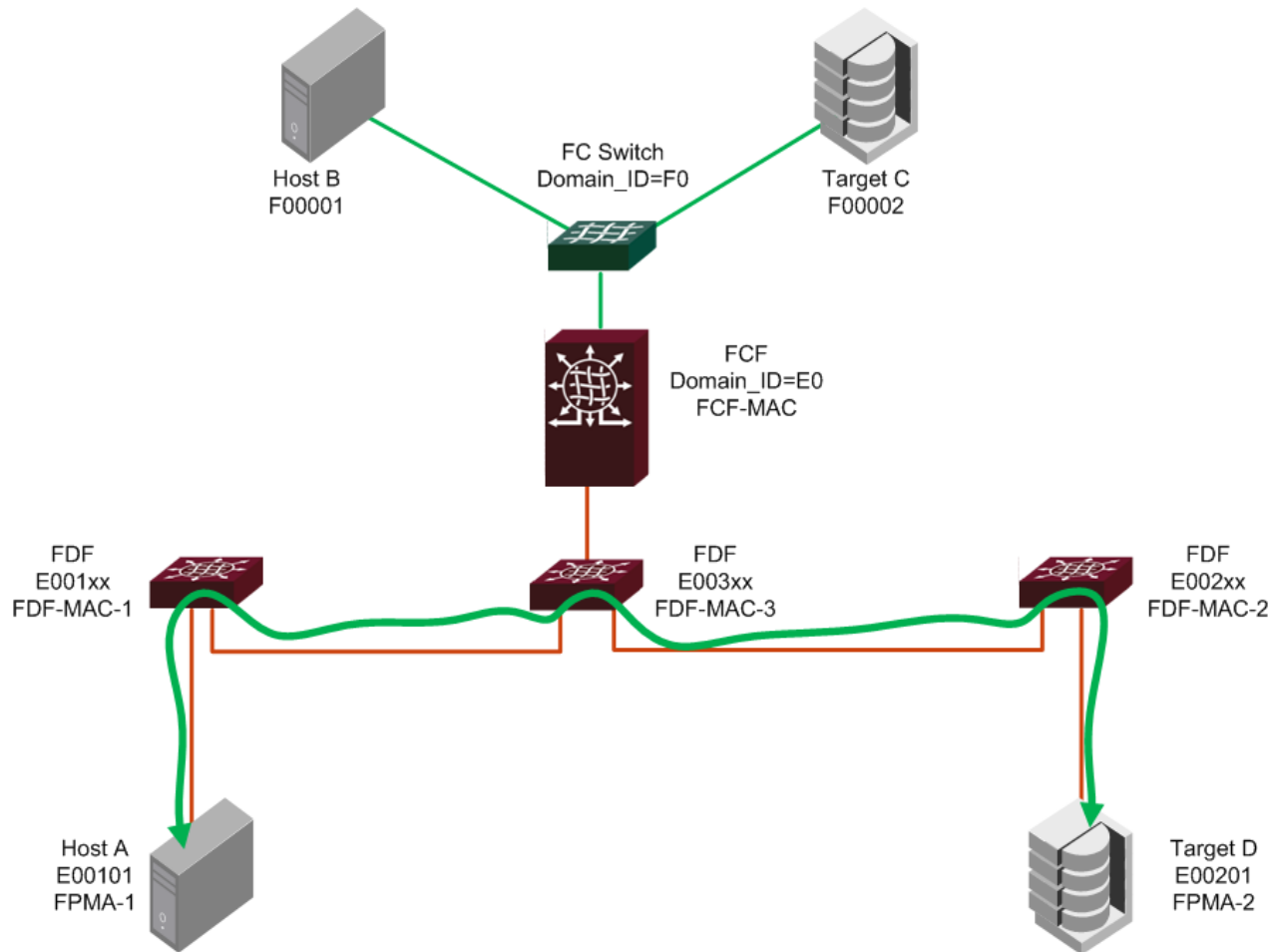
P2MP Example - 3 ENode(s)



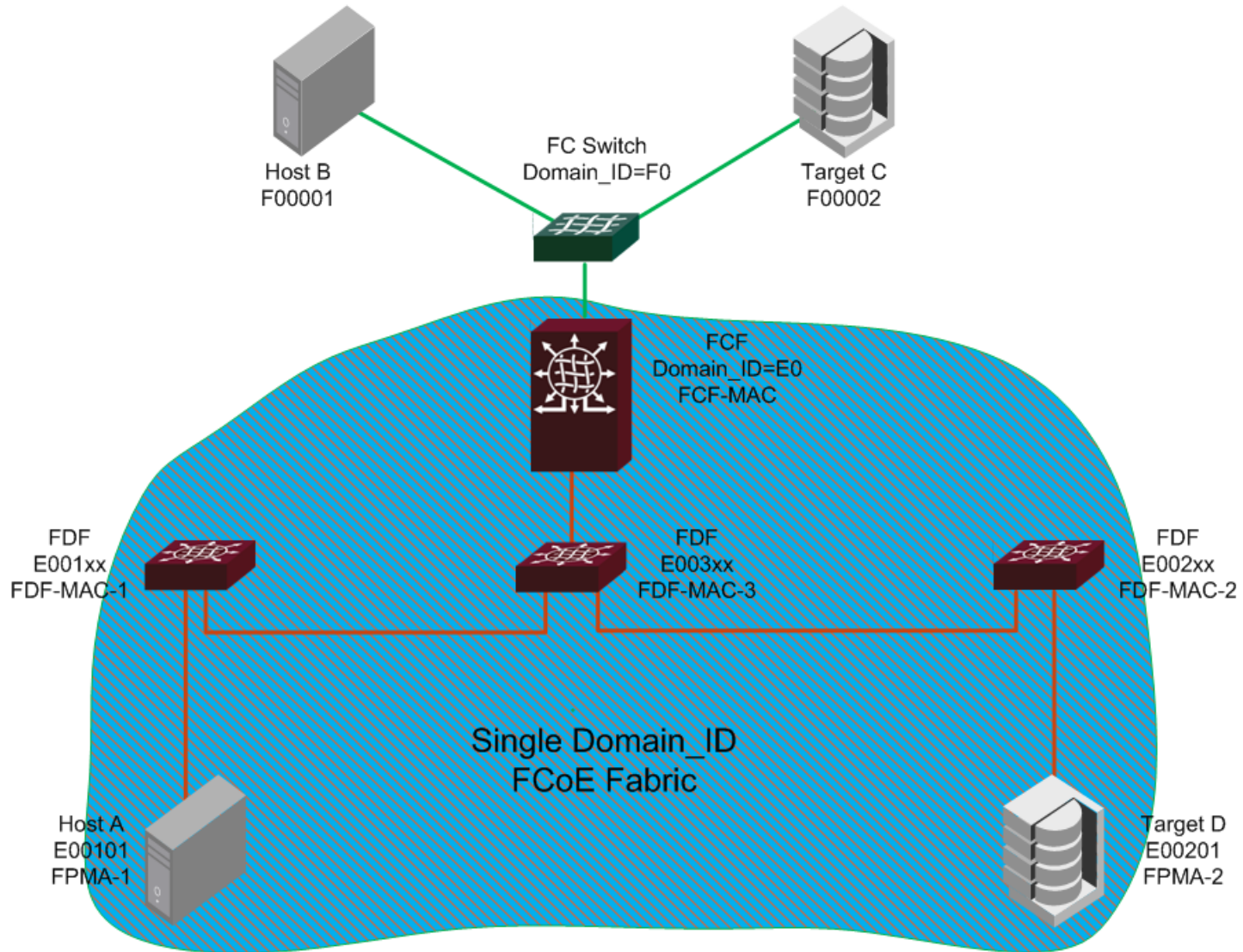
FC-BB-6: Data path ala FC-BB-5



FC-BB-6: Data path ala FC-BB-6

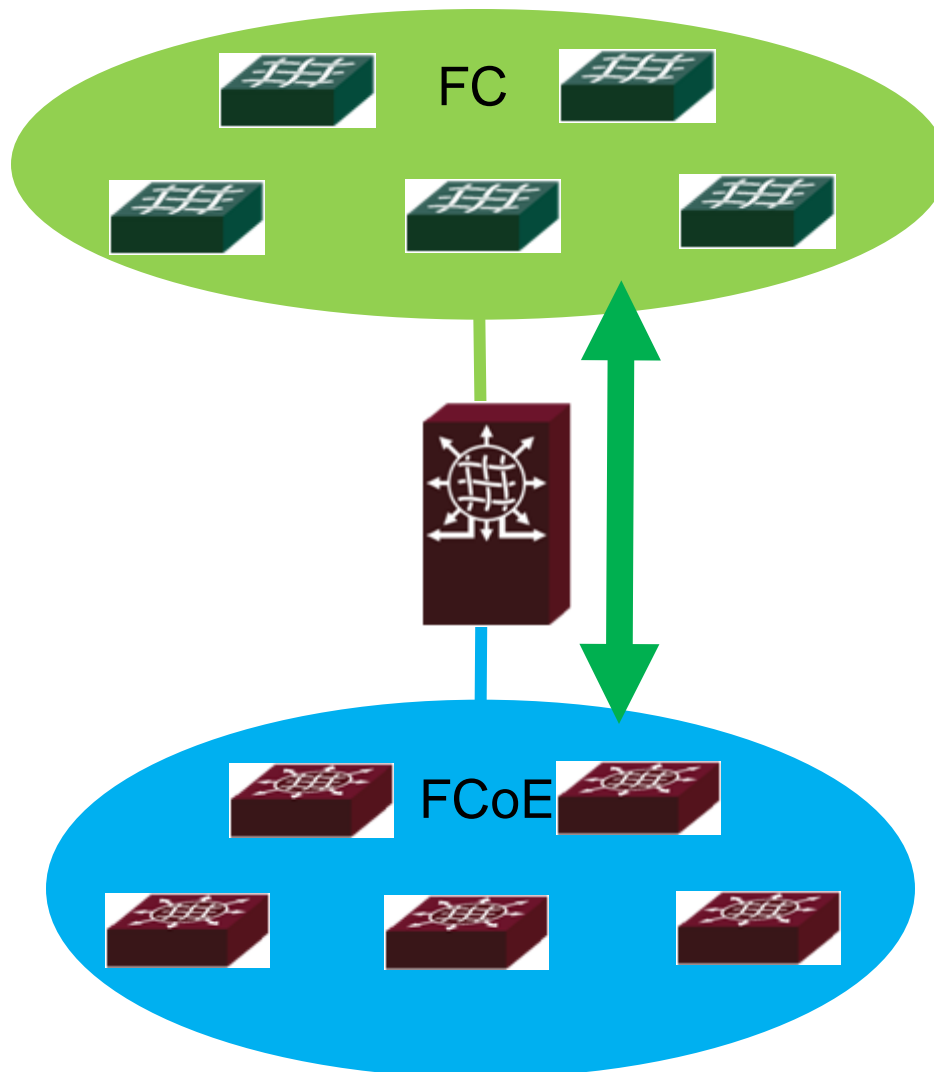


FC-BB-6: Single Domain_ID

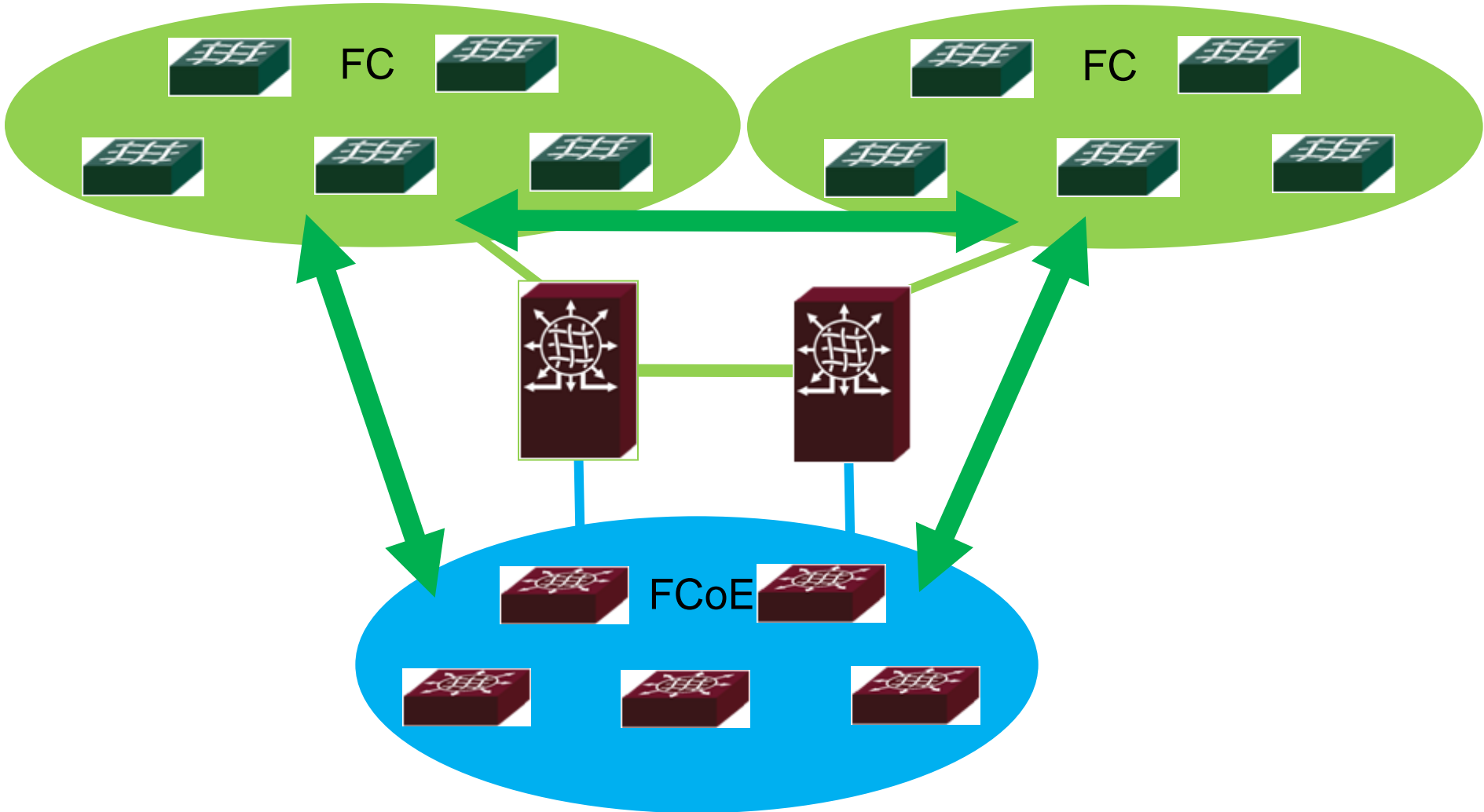


- ❑ Single Domain_ID FCoE Fabric
 - ❑ Controlling FCF
 - ❑ An FC-BB-5 based FCF with additional functionality
 - ❑ FDF address assignment
 - ❑ Discussing redundant Controlling FCF behavior
 - ❑ FCoE Data Forwarder (FDF)
 - ❑ Routing/forwarding
 - ❑ (Hard) Zoning enforcement

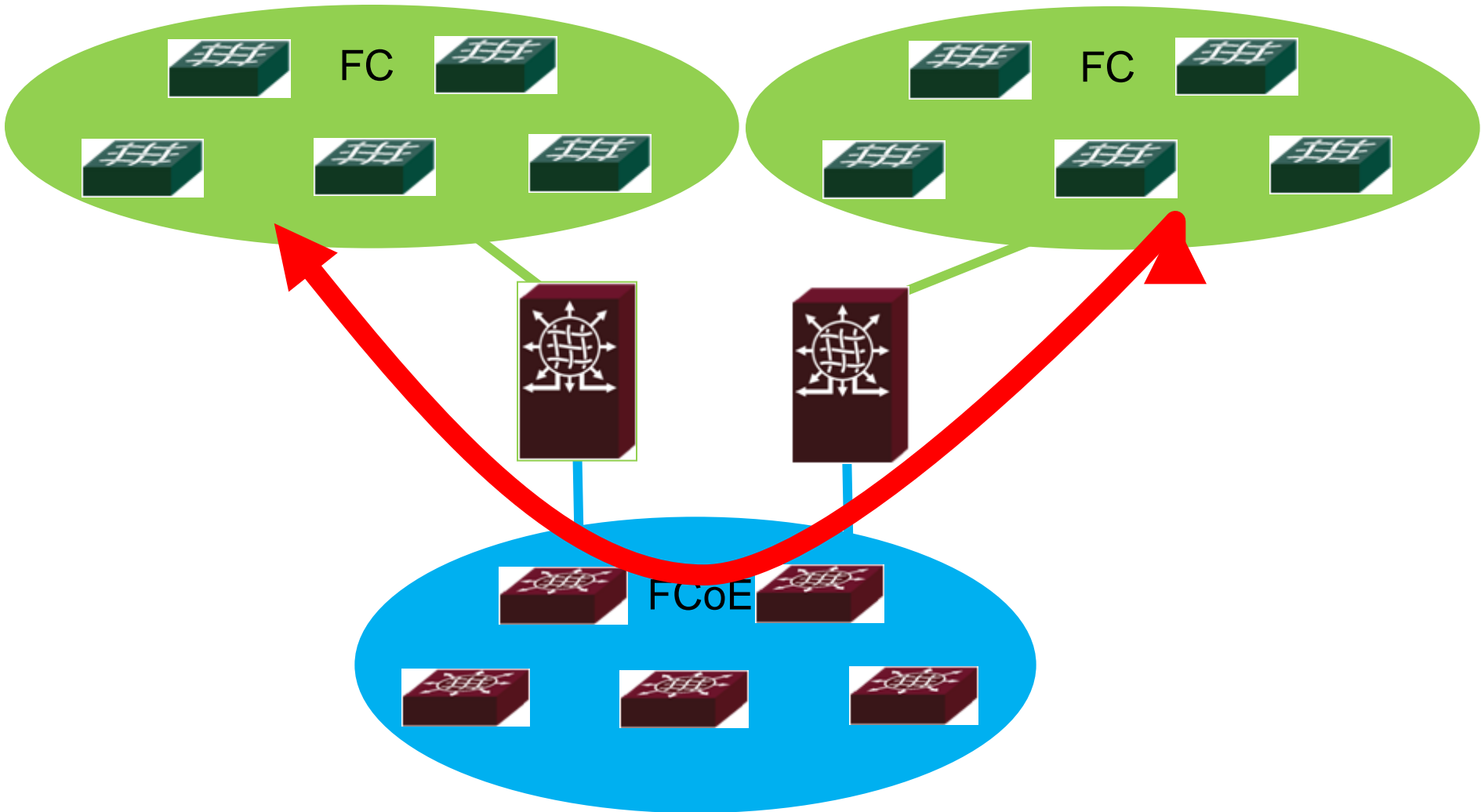
FC-BB-6: Single Domain_ID



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FC-BB-6: Single Domain_ID



□ Question(s) & (hopefully) Answers 😊 ???