



# FCoE: ENode MAC Address Considerations

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# Current proposals for ENode MAC Address

- FCoE Mapped MAC Address (FC-OUI || FC-ID)
- MAC address of the Ethernet Adapter – potentially shared between FCoE and non-FCoE traffic

Emulex prefers one scheme rather than supporting two different mechanisms for the same thing

- Simplifies the implementation
- Simplifies the management

# Address Assignment

- An FCoE Mapped MAC Address is assigned by the Fabric
  - As address identifiers are assigned by existing FC networks
- Brings NPIV concept to Ethernet
- Avoids configuration of the MAC address for FCoE traffic
- Simple mapping process between FC-ID and MAC address
  
- ENode also needs a burn-in (or configured) MAC address for Discovery/FLOGI/FDISC

# Traffic Management

- Clear isolation between FCoE traffic and regular Ethernet traffic at Layer 2
- Clear isolation of traffic from different VN\_Ports as the Ethernet MAC Address for each VN\_Port is different
- Ethernet traffic identification tools can distinguish virtual sources
- Fine grained traffic management within the network and at the ENode
- Future Ethernet traffic management enhancements become available to FCoE

# Migration of VN\_Port and FC Stack

- VN\_Port “owns” the WWNs
  - WWPN and WWNN
- Fabric “owns” Layer 2 addresses
  - FC-ID and FCoE Mapped MAC Address
- FC stack can be migrated to new platform independent of the Ethernet (TCP/IP) stack.
  - FC Stack will migrate with its WWPN and obtain a new FCoE Mapped MAC Address from the new platform.
  - Storage stacks and management tools are not aware of FC-IDs
- New possibilities open-up for FC stack to migrate with its Layer 2 address to the new platform without interruption in traffic – No need for re-login

# Security and Zoning

- Ethernet L2 ACL mechanism can be used for zoning even when some FC traffic is rerouted to bypass an FCF
- Zone enforcement points and ENodes are simplified as they need not perform deep packet inspection
  - Friendly to FCoE un-aware L2 switches
- ENode's Ethernet interface may need to support additional MAC address filter table entries to allow one MAC address per VN\_Port

# Conclusion

- FCoE working group should specify ONE scheme for assigning ENode MAC addresses
- There are advantages to using a distinct MAC address per VN\_Port
- Mapped MAC addresses are the simplest to maintain in an ENode