

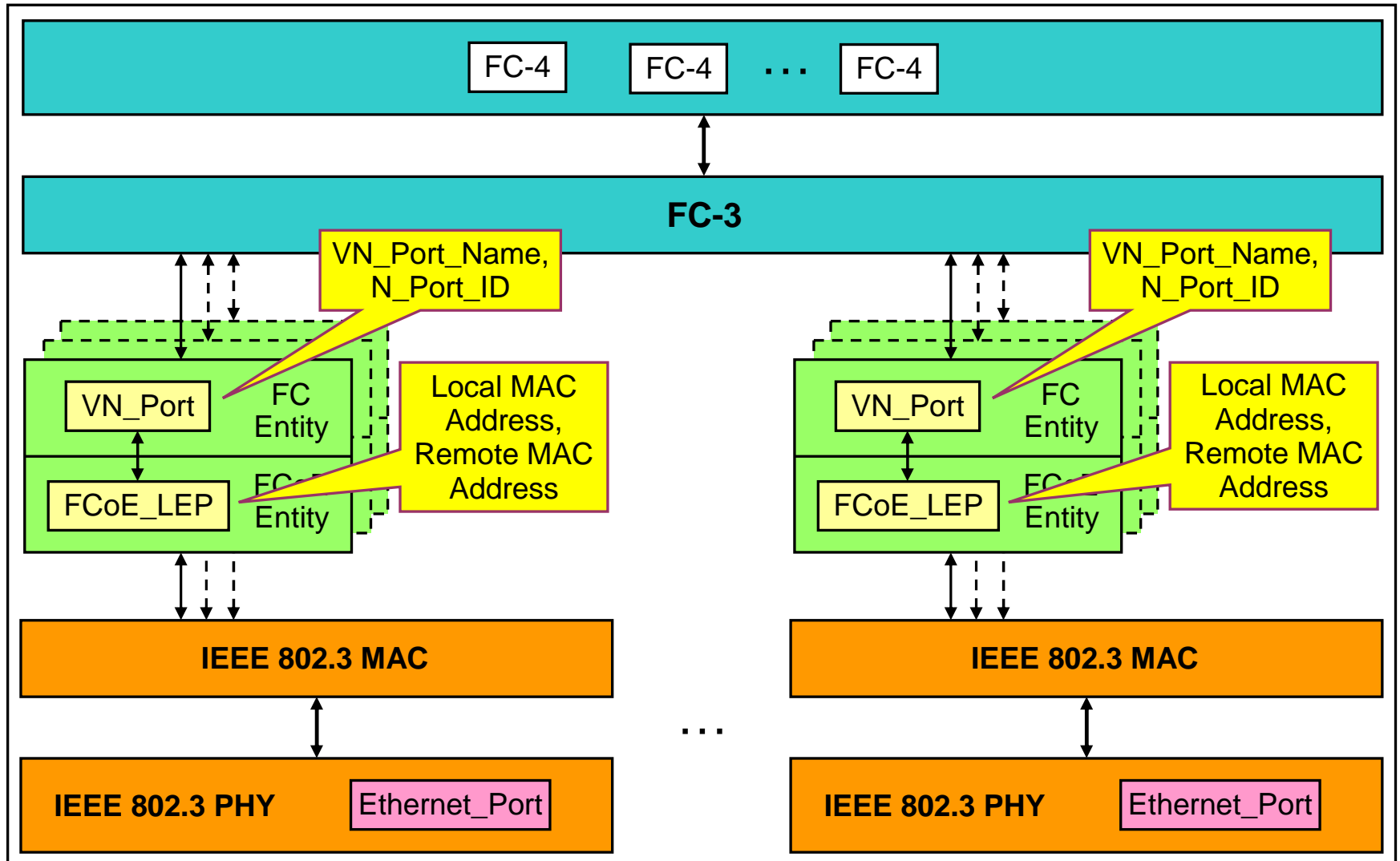


# FCoE: FC Zoning and Ethernet ACLs

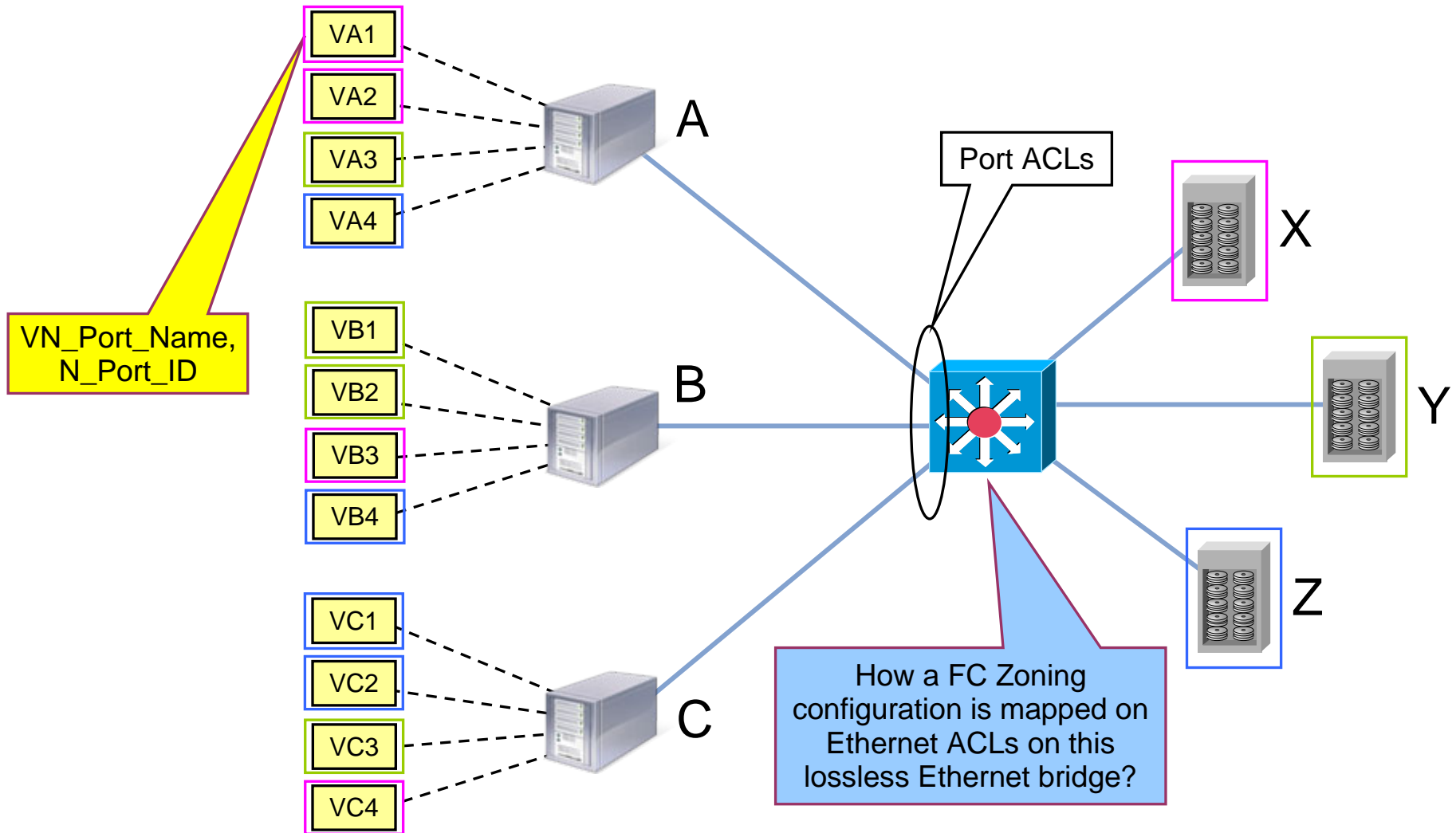
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# FCoE VN\_Port/ENode Functional Model



# Simple Physical Topology



# Simple Zoning Configuration

- **Convention:**

$N\_Vxx = Vxx$ 's  $N\_Port\_Name$

$Vxx\_ID = Vxx$ 's  $N\_Port\_ID$

- **Zone definition:**

Zone EF: {  $N\_VA1$ ,  $N\_VA2$ ,  $N\_VB3$ ,  $N\_VC4$ ,  $N\_X$  }

Zone EG: {  $N\_VB1$ ,  $N\_VB2$ ,  $N\_VA3$ ,  $N\_VC3$ ,  $N\_Y$  }

Zone EH: {  $N\_VC1$ ,  $N\_VC2$ ,  $N\_VA4$ ,  $N\_VB4$ ,  $N\_Z$  }

- **Zone enforcement (frame by frame):**

Zone EF: {  $VA1\_ID$ ,  $VA2\_ID$ ,  $VB3\_ID$ ,  $VC4\_ID$ ,  $X\_ID$  }

Zone EG: {  $VB1\_ID$ ,  $VB2\_ID$ ,  $VA3\_ID$ ,  $VC3\_ID$ ,  $Y\_ID$  }

Zone EH: {  $VC1\_ID$ ,  $VC2\_ID$ ,  $VA4\_ID$ ,  $VB4\_ID$ ,  $Z\_ID$  }

# Port ACLs with Mapped MAC Addresses

## ■ Port A ACLs:

```
mac-sa=fcoui | VA1_ID, mac-da=fcoui | X_ID, et=FCoE, permit
mac-sa=fcoui | VA1_ID, mac-da=fcoui | VA2_ID, et=FCoE, permit
mac-sa=fcoui | VA1_ID, mac-da=fcoui | VB3_ID, et=FCoE, permit
mac-sa=fcoui | VA1_ID, mac-da=fcoui | VC4_ID, et=FCoE, permit
mac-sa=fcoui | VA2_ID, mac-da=fcoui | X_ID, et=FCoE, permit
mac-sa=fcoui | VA2_ID, mac-da=fcoui | VA1_ID, et=FCoE, permit
mac-sa=fcoui | VA2_ID, mac-da=fcoui | VB3_ID, et=FCoE, permit
mac-sa=fcoui | VA2_ID, mac-da=fcoui | VC4_ID, et=FCoE, permit
mac-sa=fcoui | VB3_ID, mac-da=fcoui | X_ID, et=FCoE, permit
mac-sa=fcoui | VB3_ID, mac-da=fcoui | VA1_ID, et=FCoE, permit
mac-sa=fcoui | VB3_ID, mac-da=fcoui | VA2_ID, et=FCoE, permit
mac-sa=fcoui | VB3_ID, mac-da=fcoui | VC4_ID, et=FCoE, permit
mac-sa=fcoui | VC4_ID, mac-da=fcoui | X_ID, et=FCoE, permit
mac-sa=fcoui | VC4_ID, mac-da=fcoui | VA1_ID, et=FCoE, permit
mac-sa=fcoui | VC4_ID, mac-da=fcoui | VA2_ID, et=FCoE, permit
mac-sa=fcoui | VC4_ID, mac-da=fcoui | VB3_ID, et=FCoE, permit
mac-sa=fcoui | X_ID, mac-da=fcoui | VA1_ID, et=FCoE, permit
mac-sa=fcoui | X_ID, mac-da=fcoui | VA2_ID, et=FCoE, permit
mac-sa=fcoui | X_ID, mac-da=fcoui | VB3_ID, et=FCoE, permit
mac-sa=fcoui | X_ID, mac-da=fcoui | VC4_ID, et=FCoE, permit
et=FCoE, deny
```

# Port ACLs with Shared MAC Addresses

## ■ Port A ACLs:

```
mac-sa=A, mac-da=X, et=FCoE, S_ID=VA1_ID, D_ID=X_ID, permit
mac-sa=A, mac-da=A, et=FCoE, S_ID=VA1_ID, D_ID=VA2_ID, permit
mac-sa=A, mac-da=B, et=FCoE, S_ID=VA1_ID, D_ID=VB3_ID, permit
mac-sa=A, mac-da=C, et=FCoE, S_ID=VA1_ID, D_ID=VC4_ID, permit
mac-sa=A, mac-da=X, et=FCoE, S_ID=VA2_ID, D_ID=X_ID, permit
mac-sa=A, mac-da=A, et=FCoE, S_ID=VA2_ID, D_ID=VA1_ID, permit
mac-sa=A, mac-da=B, et=FCoE, S_ID=VA2_ID, D_ID=VB3_ID, permit
mac-sa=A, mac-da=C, et=FCoE, S_ID=VA2_ID, D_ID=VC4_ID, permit
mac-sa=B, mac-da=X, et=FCoE, S_ID=VB3_ID, D_ID=X_ID, permit
mac-sa=B, mac-da=A, et=FCoE, S_ID=VB3_ID, D_ID=VA1_ID, permit
mac-sa=B, mac-da=A, et=FCoE, S_ID=VB3_ID, D_ID=VA2_ID, permit
mac-sa=B, mac-da=C, et=FCoE, S_ID=VB3_ID, D_ID=VC4_ID, permit
mac-sa=C, mac-da=X, et=FCoE, S_ID=VC4_ID, D_ID=X_ID, permit
mac-sa=C, mac-da=A, et=FCoE, S_ID=VC4_ID, D_ID=VA1_ID, permit
mac-sa=C, mac-da=A, et=FCoE, S_ID=VC4_ID, D_ID=VA2_ID, permit
mac-sa=C, mac-da=B, et=FCoE, S_ID=VC4_ID, D_ID=VB3_ID, permit
mac-sa=X, mac-da=A, et=FCoE, S_ID=X_ID, D_ID=VA1_ID, permit
mac-sa=X, mac-da=A, et=FCoE, S_ID=X_ID, D_ID=VA2_ID, permit
mac-sa=X, mac-da=B, et=FCoE, S_ID=X_ID, D_ID=VB3_ID, permit
mac-sa=X, mac-da=C, et=FCoE, S_ID=X_ID, D_ID=VC4_ID, permit
et=FCoE, deny
```

# Summary

- **Mapped MAC Addresses (one per VN\_Port) allow enforcement of an FC Zoning configuration as an Ethernet L2 ACL**  
MAC-SA, MAC-DA
- **Per VN\_Port MAC Addresses allow enforcement of an FC Zoning configuration as an Ethernet L2 ACL**  
MAC-SA, MAC-DA, ET
- **MAC Addresses shared across VN\_Ports require L3 ACL for enforcement of an FC Zoning configuration**  
MAC-SA, MAC-DA, ET, S\_ID, D\_ID