



T11 FC-BB-6

# FC-BB-5 Implicit Logout and Virtual Links

Roger Hathorn  
10/05/2011

## Background – Explicit Link De-instantiation

- From FC-BB-5: “Explicit VN\_Port to VF\_Port Virtual Link de-instantiation is invoked by a VF\_Port capable FCF-MAC by transmitting a FIP Clear Virtual Links frame”
- FC-BB-5 specifies scenarios for which de-instantiation of virtual links is required.
  - VN\_Port FIP Keep Alive Timeout
  - E\_Node FIP Keep Alive Timeout
  - Receive VN\_Port FIP Keep Alive with VN\_Port not Logged In
  - Receive E\_Node FIP Keep Alive with no VN\_Ports Logged in
  - Whenever appropriate to speed up link fault recovery

## Fabric Re-login Scenario

- Events may occur that cause an ENode MAC to perform an implicit logout of all of it's VN\_Ports associated with a particular VF\_Port (PPN)
  - e.g, a detected virtual link failure at the ENode, or a LKA timeout.
- The FCoE Controller of said ENode MAC may then restart the discover and login process, sending FIP FLOGI to the FCF.
- The FCF may not be aware of the event that caused the implicit logout at the ENode
- Receipt of the FLOGI will cause implicit logout of all of the VN\_Ports associated with the VF\_Port (PPN).
- There is no requirement to send CVL to explicitly de-instantiate the Virtual Links when THIS implicit logout occurs.

## Fabric Re-login Scenario - Continued

- CVL is used by FIP Snooping Bridges to clear ACL entries
- Today, in FC-BB-5 deployments, the ACLs would only be cleared in a FIP snooping bridge upon a lack of FIP keep alive frames from the VN\_Ports which have logged out.
- This will take a long time and will not occur before the FCF is free to allocate the old N\_Port IDs to other VN\_Ports.
- In order to clear state in FSBs in a timely manner, the FCF should send a CVL listing all of the VN\_Ports that are currently logged in (just as it does for an E\_Node keep alive timeout)
- Care must be taken to ensure this takes place before accepting the FLOGI.

# Proposal

- **An Implicit Logout of a VN\_Port at the FCF should cause explicit de-instantiation of the VN\_Port to VF\_Port virtual link in all cases, not just some cases.**
- **Add the following improvement in FC-BB-6 (rev 1.03), clause 7.9.5.2**
  - An event that causes a VF\_Port to perform implicit logout of a VN\_Port shall cause explicit VN\_Port to VF\_Port Virtual Link de-instantiation. If the event causes implicit logout of more than one VN\_Port, the FIP Clear Virtual Links frame shall list all affected VN\_Ports. If the event that caused implicit logout was reception of a FIP FLOGI request, the CVL shall be sent prior to responding to the FIP FLOGI request.
  - Add the above text just prior to this statement in clause 7.9.5.2
    - “FIP Clear Virtual Links frames may be generated by FCFs whenever appropriate to speed-up fault recovery.”

# Thank you