FCoE Device Type Indication

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Overview

• Background
• Motivation
• FCoE device types
• Possible solutions
• Additional thoughts
Background

• An earlier version of this presentation was made to IEEE 802.1

• IEEE 802.1 decided that the presentation should be made to T11
  – T11 could choose to address the problem by defining an Organizationally Specific TLV

• This presentation has been updated to reflect that option
Motivation

• FC-BB-5 recommends that bridges perform FIP snooping to improve security in FCoE deployments using ACLs
• This function must only be performed by bridges immediately adjacent to an ENode or FCF
  – Otherwise, a change in path would result in traffic being discarded
• Without a way to auto-detect connectivity to an ENode or FCF, this must be manually configured
• LLDP can easily provide the information needed for auto-detection
FCoE Device Types

- ENode – End system
- FCF – Fibre Channel Forwarder
- FDF – FCoE Data Forwarder
- FSB – FIP-snooping Bridge

- ENode, FCF, FSB are defined in FC-BB-5
- FDF is defined in FC-BB-6 (work in progress)
Possible Solutions

• System Capabilities TLV in LLDP
• New TLV in DCBX
• Organizationally Specific TLV by T11
System Capabilities TLV

• Add an additional capability for each device
  – There are 5 unused capability bits, but can be extended
  – See Table 8-4 in IEEE 802.1AB-2009
• “Station Only” is already defined and can be used for Enode
• Would need to define FCF, FDF, and FSB
• This TLV is an optionally TLV and is not commonly sent by existing implementations
  – Could have T11 recommend that it be sent by FCoE devices
• Updates IEEE 802.1AB
New TLV in DCBX

• Provide a new informational TLV in DCBX to indicate FCoE device type
• DCBX is widely implemented by FCoE devices
• Updates IEEE 802.1Q
Organizationally Specific TLV by T11

• T11 defines an Organizationally Specific TLV using their OUI
• T11 could potentially add other information it deems useful to such a TLV
• No updates to IEEE 802.1 standards
THANK YOU