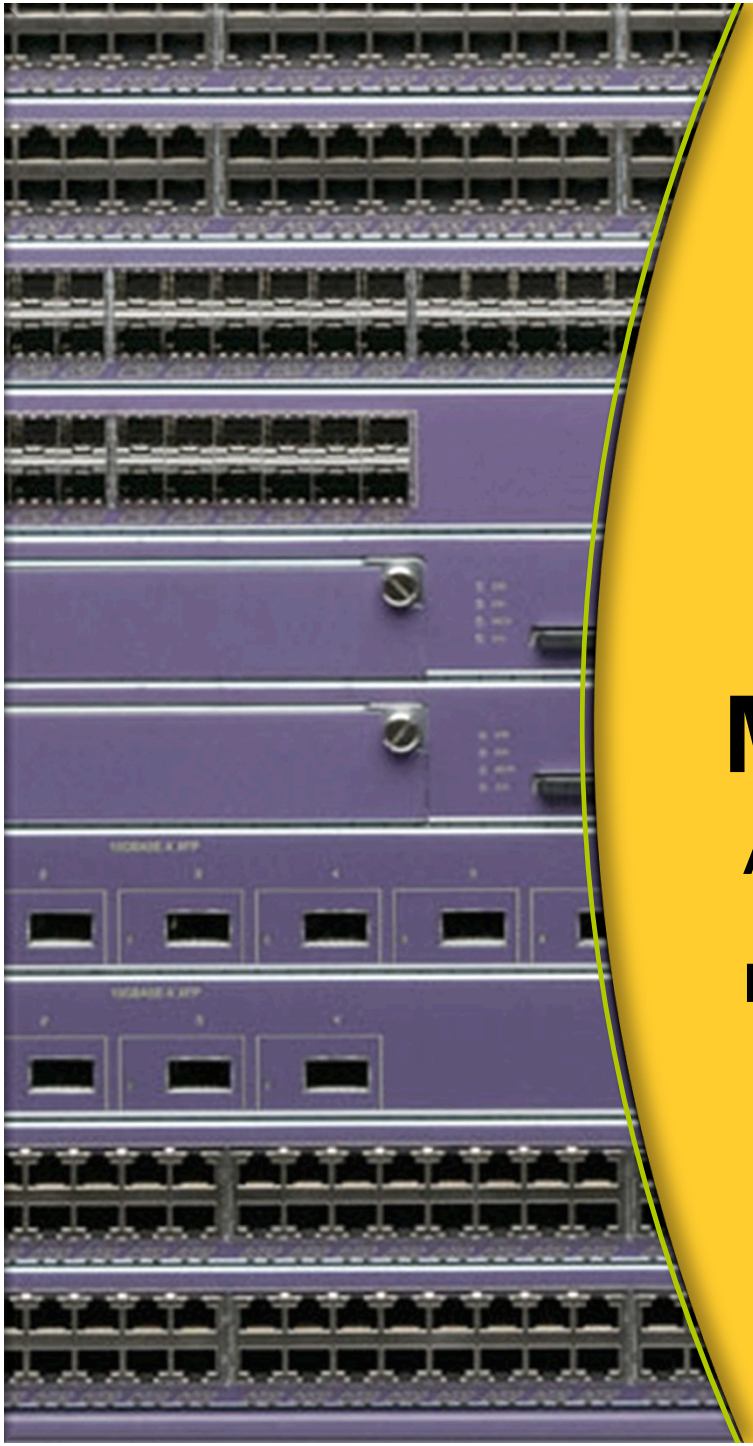

MSRP Improvements

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Outline

- MSRP
  - Stream Errors
- FQTSS
  - Priority Regeneration

Unaddressed MSRP Errors

- Invalid VLAN ID
  - 35.2.2.8.3 Talker Advertise DataFrameParameters
    - “VLAN aware systems may use any valid VID (1 through 4094).”
  - What should be done if VID is 0 or 4095?
    - Use error code 17 – VLAN is blocked on this egress port (Registration Forbidden), and do not propagate Talker attribute?
    - Create a new error code, and propagate Talker attribute as Talker Failed?
    - Or, should this be treated as an invalid MRPDU?
    - Recommendation: Use error code 17, and do not propagate.

Unaddressed MSRP Errors

- Listener Ready/Ready Failed received before MVRP VLAN registration.
  - Not covered in 802.1Q-2011
  - Options
    - Propagate Listener request as Listener Asking Failed.
    - Ignore Listener message (do not propagate).
    - Propagate Listener request as a Listener Ready/Ready Failed, but do not install forwarding information.
    - Recommendation: Ignore Listener message (do not propagate).
  - How is the error reported? (There is currently no notion of listener failures.)
  - The device should recover if the MVRP registration is received after the Listener message.

FQTSS Priority Regeneration

- 802.1Q-2011, Clause 6.9.4 Regenerating priority:
  - “The priority of each received frame is regenerated using priority information contained in the frame and the Priority Regeneration Table for the reception Port. For each reception Port, the Priority Regeneration Table has eight entries, corresponding to the eight possible values of priority (0 through 7). Each entry specifies, for the given value of received priority, the corresponding regenerated value.”

- Interpretation:
  - Priority regeneration is a function of the reception port, and is not a function of the transmission port.
  - Therefore, even if a frame is received on a non-AVB port (SRPdomainBoundaryPort), and transmitted on another non-AVB port, the priority will be regenerated.

FQTSS Priority Regeneration: Multiple Domains

- Consider the following bridge with 3 ports & single Class A Domain:

- P1
  - Class A, SRPdomainBoundaryPort == FALSE,
- P2
  - Class A, SRPdomainBoundaryPort == FALSE,
- P3
  - Class A, SRPdomainBoundaryPort == TRUE,
  - Must regenerate priority 3.

FQTSS Priority Regeneration: Multiple Domains

- Consider the following bridge with 3 ports, and two class A domains.

- P1
  - Is a member of A1,
  - Is a boundary port for A2
  - Must regenerate priority 5.
- P2
  - Is a member of A2, and
  - Is a boundary port for A1
  - Must regenerate priorities 3.
- P3
  - Is a boundary port for both A1 and A2
  - Must regenerate priorities 3,5.

Class A, SRPdomainBoundaryPort == ?

FQTSS Priority Regeneration: Multiple Domains

- 802.1Q-2011, Clause 6.6.4 Stream Reservation Protocol (SRP) Domain status parameters:
  - "In Bridges that support the Stream Reservation Protocol (SRP), and for each SR class supported by the Bridge, an SRPdomainBoundaryPort parameter is associated with each Port of the Bridge."
- If a bridge is connected to multiple SRP domains.
  - A port may have Class A SRPdomainBoundaryPort == FALSE for 0 or 1 domain(s)
  - A port may have Class A SRPdomainBoundaryPort == TRUE for 0 or more domains.
- But, 802.1Q-2011 defines a single SRPdomainBoundaryPort parameter per port per class.
- This aspect of 802.1Q-2011 does not support the existence of multiple domains.
- Recommendation:
  - Make domain configuration global to bridge, and only support a single domain per switch.