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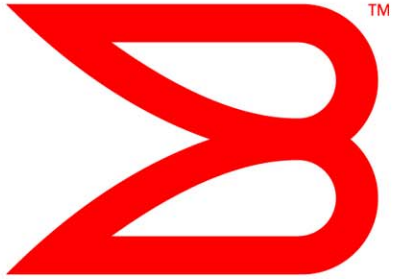

Defense Mechanisms for PFC

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Overview

- Background
- The need for a defense mechanism
- Proposed defense mechanism

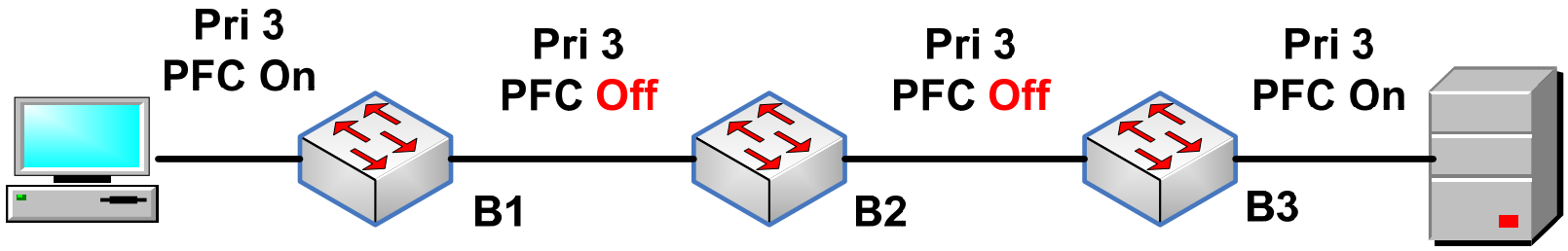
Background

- 802.1Qaz/D0.4 has a defense mechanism for PFC
  - If configured for PFC, and PFC negotiation fails, traffic from that priority is discarded on ingress
- A comment was made objecting to this behavior
  - In a misconfigured network where the in-band network management traffic uses the PFC priority, there may be no way to reach the misconfigured device to correct the problem
- As a result, we are on the verge of removing the defense mechanism altogether

The Need for a Defense Mechanism

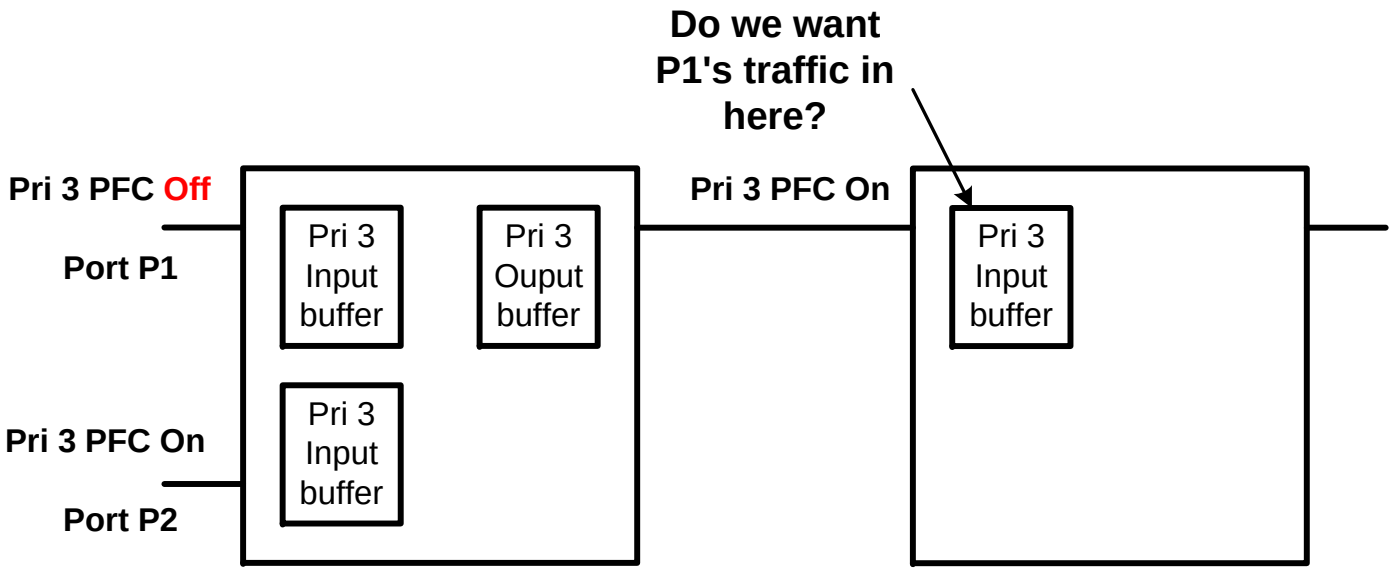
- Defense mechanisms are needed for 2 reasons
  - Some protocols require lossless operation
  - To minimize the interference between PFC and non-PFC traffic

Detecting End-to-end Lossless Behavior



- Without a defense mechanism end stations would not know if PFC is not available at some intermediate bridge
- May be solved by dynamically installing ACLs to drop *all* traffic of protocols requiring lossless behavior when PFC negotiation fails
  - This is a protocol-specific approach
  - 802.1 should address this in a protocol-independent fashion

Interference Between PFC and Non-PFC



- Port P1 could be connected to a regular LAN
- The network is engineered with certain traffic assumptions when using PFC
- Allowing arbitrary intermixing of traffic could lead to PFC being asserted more often

Proposed Defense Mechanism

- The same mechanism as P802.1Qau
- Disallow a configuration with all 8 priorities having PFC
- A system can be configured for whether or not to use a defense mechanism
- If a defense mechanism is in use for a priority AND if PFC is off, then incoming traffic for that priority is remapped & remarked to a non-PFC priority
  - An end station that cares about lossless behavior for a certain protocol can check to see that it is receiving frames on the lossless priority
  - Any interference between PFC & non-PFC traffic at the same priority is avoided

Summary

- It is necessary to support a defense mechanism for PFC
- A mechanism similar to CN should suffice