8. Principles of bridge operation

8.6 The Forwarding Process

8.6.1 Active topology enforcement

Change subclause 5.2 as shown:

To prevent data loops and unwanted learning of source MAC addresses, the Forwarding Process determines the values (TRUE, or FALSE) of the learning and forwarding controls (8.4) appropriate to each received frame and Bridge Port, If learning is true for the receiving Port and ingress filtering (8.6.2) would not cause the received frame to be discarded, the source address and VID are submitted to the Learning Process. If forwarding is true for the receiving Port, and either reflective relay is not supported on the Port or the value of the operReflectiveRelay parameter for the Port is FALSE (6.6.5), each Bridge Port, other than the reception Port, with forwarding true is identified as a potential transmission Port. If forwarding is true for the receiving Port and reflective relay is supported on the Port and the operReflectiveRelay parameter for the Port is TRUE, each Bridge Port, including the reception Port, with forwarding true is identified as a potential transmission Port.

Insert new subclause 8.6.1.1 at the end of 8.6.1, as shown:

8.6.1.1 Requirements for the use of reflective relay

VEPA edge relays (8.6.3.1) used in EVB stations (Clause 40) require reflective relay (6.6.5, 8.6.1) to be enabled on the attached EVB Bridge SBP in order to ensure that all VSIs connected to the VEPA edge relay are able to receive frames transmitted on one of the other VSIs. The following requirements ensure that VEPA edge relays operate correctly when using reflective relay:

a) Any frame that is transmitted on a given VSI by the edge relay, and that is reflected back to the edge relay through the attached Bridge Port, shall be filtered by the edge relay in order to prevent it being delivered to the originating VSI.

b) The operation of the edge relay shall be such that it prevents the establishment of loops.

c) Any device requesting reflective relay is responsible for performing frame replication as necessary for delivery to multiple ports.

NOTE 1—The only information in the frame that can be used to assist in meeting these requirements is the source MAC address and possibly the VLAN ID, although use of the latter requires that the reflective Port transmit frames tagged with the original VID.

Insert new subclause 8.6.3.1 at the end of 8.6.3, as shown:

8.6.3.1 VEPA filtering

In addition to the filtering specified in 8.6.3, a VEPA edge relay will additionally filter frames as follows.

If the receiving port is an ERP, then the URP shall be added to the list of possible transmission Ports and shall be selected as the only potential transmission port.

If the receiving port is a URP, then frames received at the URP must not be returned to an ERP used to reach the source MAC address. Any ERP used to reach the source MAC address of the frame shall be removed from the list of possible transmission Ports.