15. Operation of a Provider Bridge

A Provider Bridge shall implement the provisions of Clause 8 of IEEE Std 802.1Q[9], as amended by IEEE Std 802.1s, with the restrictions and extensions specified in this clause.

Management of a Provider Bridge is directly under the control of the Network Provider. No elements of the Provider Bridge are manageable directly by a Provider Network User[10]

All provisions of IEEE Std 802.1Q Clause 8 with respect to VLANs, VIDs, and VLAN-tagged frames, apply to the Provider VLANs, Provider VIDs, and frames tagged or detagged by Provider Bridges except where explicitly specified otherwise. The VLANs, VIDs, and tagged frames administered by the users of the Provider Bridge Network and used within their own User Bridged Local Area Networks[11] are referred to as User VLANs, User VIDs, and User tagged frames.

Each Bridge Port shall be identified either as a User Network Interface Port or a Provider Network Port. Clause XX of this standard specifies how that administrative determination is made.

A Provider Bridge:

    a)   shall implement Port based VLAN classification (.1Q 8.4.4), and shall not implement Port-and-Protocol based classification (.1Q 8.9);

    b)   shall configure all supported VLANs for IVL (Independent VLAN Learning) (.1Q 7.4, 8.10.7);

    c)   shall implement the GARP VLAN Registration Protocol (GVRP) (.1Q 11);

    d)   shall use the GARP Application Address specified in Table 15-tbs for GVRP, and shall not use the GVRP Application Address specified in IEEE Std 802.1Q, Table 11-1;

    e)   shall not configure any of the GARP Application Addresses specified in IEEE Std 802.1D Table 12-1 in the Filtering Database (.1Q 8.10) or Permanent Database (.1Q 8.10.10);

For each User Network Interface Port:

    f)   the Acceptable Frame Types parameter (.1Q 8.4.3) shall be *Admit All Frames*[12];

    g)   the Enable Ingress Filtering parameter (.1Q 8.4.5) shall be set;

    h)   the PVID (.1Q 8.4.4) shall be set to the value of the VID of the Provider VLAN supporting the Service Instance provided to the Network User by the Port;

    i)   a Static VLAN Registration Entry (.1Q 8.10.2) for the PVID shall take the value Registration Fixed for this Port and shall specify that frames for that VID are transmitted through the Port untagged, discarding any frame whose address is not in canonical format (.1Q 8.6.4);

    j)   Static VLAN Registration Entries for all other supported VIDs shall take the value Registration Forbidden;

For each Provider Network Port:

    k)   the Acceptable Frame Types parameter (.1Q 8.4.3) shall be Admit All Frames;

    l)   the Enable Ingress Filtering parameter (.1Q 8.4.5) shall be reset;

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[9]"this standard" if Provider Bridges, Provider Bridged Networks, and Provider Bridged Nework Services are specified as an amendment to 802.1Q rather than as a separate standard.

[10]The term Provider Network User is defined (will be defined) in the Principles of Network Operation or a similar section.

[11]The term User Bridged Local Area Network is defined (will be defined) in the Principles of Network Operation or a similar section.

[12]The configuration information required in a simple provider bridge would have been reduced if 802.1Q had specified *Admit Only Untagged Frames* as a possible value for the Acceptable Frames Type parameter in addition to *Admit Only VLAN-tagged frames* and *Admit All Frames*

m) the PVID (.1Q 8.4.4) shall be set to the VID of a Provider VLAN that is reserved for use by the Network Provider and does not support any Service Instance provided to any Network User by any User Network Interface Port;

n) a Static VLAN Registration Entry (.1Q 8.10.2) for the PVID shall take the value Registration Fixed for this Port and shall specify that frames for that VID are transmitted through the Port untagged;

o) Static VLAN Registration Entries for all other supported VIDs shall take the value Normal Registration;

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