SRP and VLAN-IDs

a.k.a. “Comment #26”

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VLAN Notes

• Clause 8.8.2, NOTE 1. Single vs multiple untagged vlans per port is an implementation option.
• Clause 8.8.2 says PVID defaults to Registration Fixed and untagged forwarding on all ports.
• Clause 8.8.2, NOTE 2. PVID untagged by default, all other VIDs tagged by default.
• By default only the VLAN identified by the PVID is in a member set. SRP will use MVRP to create a member set for Streams.
During the SRP Boundary Discovery process, the Bridge tells the Talker which VID to use (SR_PVID=2) for the MSRP and Stream packets.

If the egress port is not allowed to be a member of that VLAN (Registration Forbidden), the Talker Advertise will be dropped.

If the VLAN is a member of the untagged set, the Talker Advertise will be changed to a Talker Failed with a Failure Code of “Port is a member of the UnTagged Set”.

Talker Advertise arrives at Listener with VID=2 (assigned from SR_PVID by Talker).
Talker receives MVRP, however it doesn't have to do anything with it. Talker receives MSRP Listener Ready and can begin Streaming.

Bridge-1

Bridge-2

Bridge receives MVRP and adds port to VLAN Member Set. Bridge receives MSRP Listener Ready and configures Qav, etc.

Listener extracts the VID from the Talker Advertise and sends an MVRP ES_REGISTER_VLAN_MEMBER (VID) back to the Bridge. Listener also sends an MSRP Listener Ready.

(same behavior as Bridge-2)
Talker begins streaming with VID=2.

This Bridge routes the Stream data.

This Bridge routes the Stream data.

Listener receives the Stream data and processes it appropriately.
Summary of changes for “Comment #26”

- SRP will introduce an SR_PVID (Stream Reservation PVID) which will be assigned the value 2. By default, all Streams will use this VID. SR_PVID will be a managed object and is not allowed to be set to 0 or 4095.
- Talkers will learn this value via the SRP Boundary Discovery changes suggested in Comment #24. Talkers will use this in the MSRP declarations and the resultant Streams.
- Talker Advertise is dropped if egress port is set to Registration Forbidden for the VID.
- Talker Advertise changes to Talker Failed if egress port is a member of the Untagged Set for the VID.
- Listener will extract VID from Talker Advertise and issue an MVRP ES_REGISTER_VLAN_MEMBER(VID) to become part of the member set for that VLAN.
- A “smart” Talker could be VLAN aware and use any non-zero, non-4095 VID in MSRP and Streams. Dumb Listeners will just work.