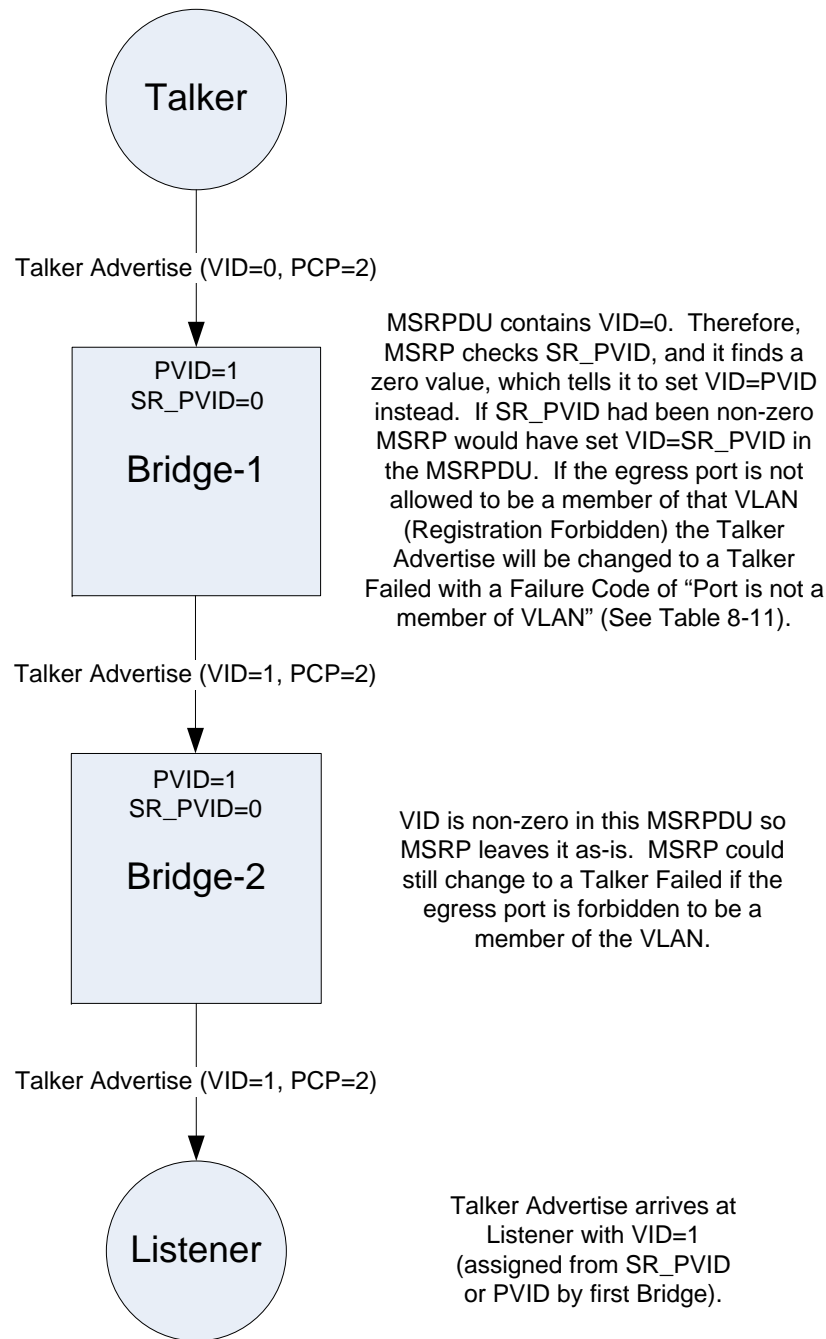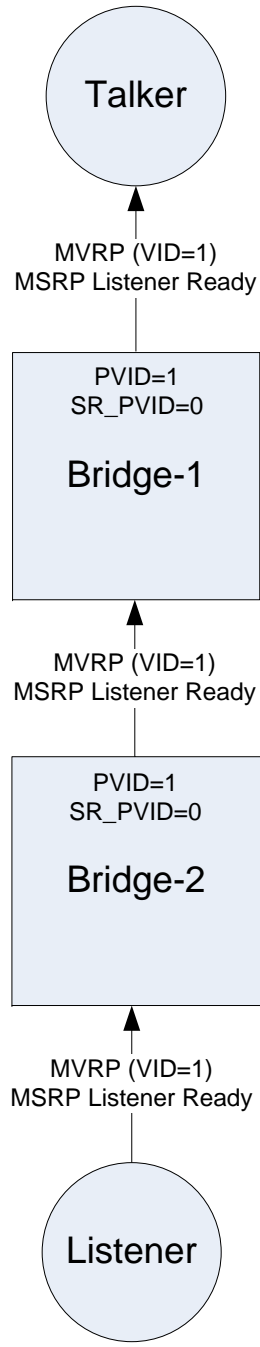# SRP and VLAN-IDs

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.
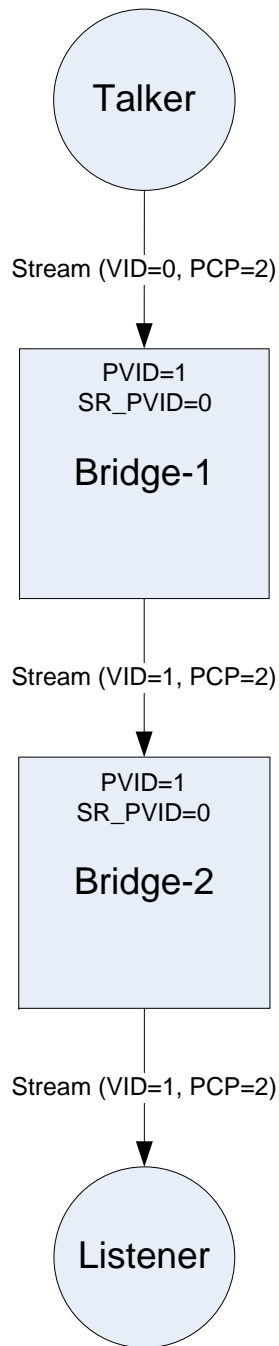
Talker

Talker Advertise (VID=0, PCP=2)

PVID=1
SR_PVID=0

Bridge-1

MSRPDU contains VID=0. Therefore, MSRP checks SR_PVID, and it finds a zero value, which tells it to set VID=PVID instead. If SR_PVID had been non-zero MSRP would have set VID=SR_PVID in the MSRPDU. If the egress port is not allowed to be a member of that VLAN (Registration Forbidden) the Talker Advertise will be changed to a Talker Failed with a Failure Code of "Port is not a member of VLAN" (See Table 8-11).

Talker Advertise (VID=1, PCP=2)

PVID=1
SR_PVID=0

Bridge-2

VID is non-zero in this MSRPDU so MSRP leaves it as-is. MSRP could still change to a Talker Failed if the egress port is forbidden to be a member of the VLAN.

Talker Advertise (VID=1, PCP=2)

Listener

Talker Advertise arrives at Listener with VID=1 (assigned from SR_PVID or PVID by first Bridge).

Talker

Talker receives MVRP, however it
doesn't have to do anything with it.
Talker receives MSRP Listener
Ready and can begin Streaming.

MVRP (VID=1)
MSRP Listener Ready

PVID=1
SR_PVID=0

Bridge-1

(same behavior as Bridge-2)

MVRP (VID=1)
MSRP Listener Ready

PVID=1
SR_PVID=0

Bridge-2

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

MVRP (VID=1)
MSRP Listener Ready

Listener

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.

Talker

Talker begins streaming with VID=0.

Stream (VID=0, PCP=2)

PVID=1
SR_PVID=0

Bridge-1

Here's a bit of a challenge. The Streaming data comes in with VID=0. How will the Bridge identify this as an MSRP related Stream without a lot of CPU effort? Certainly it could look at the PCP or the MAC DA, then insert the SR_PVID or PVID, but that seems like it may be something unusual to do. If we dismissed the idea of an SR_PVID and just used PVID then the Bridge could do what it already does with the PVID. Maybe the Talker should extract the VID from the MVRP packet, or MSRP could use the SRP Domain packets to tell the Talker which VID to use (This may apply to the Talker Advertise packets as well).

Stream (VID=1, PCP=2)

PVID=1
SR_PVID=0

Bridge-2

This Bridge routes the Stream data.

Stream (VID=1, PCP=2)

Listener

Listener receives the Stream data and processes it appropriately.

Questions to answer

- Should we stick with our very early assumption of using the PVID?
  - If so, Talkers would still send MSRP and Streams with VID=0.
  - How does this play with "PVID defaults to Registration Fixed and untagged forwarding"?
- Do we want to introduce SR_PVID?
  - If so, what value will Talker put in Stream VID?
  - How did it learn that VID?
- Regardless of which technique we use a "smart" Talker could be VLAN aware and use a non-zero VID in MSRP and Streams.