SRP Domain Core Port discovery

Legend:
- SRP domain boundary port
- SRP domain core port

1. Talker Advertise
2. Talker Failed (not MSRP capable)
3. LeaveAll
4. LeaveAll
5. Listener Asking Failed
6. Listener Asking Failed
7. Talker Advertise
8. Listener Ready
9. Listener Ready
10. Listener Ready

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SRP Domain Port processing

• All ports are initialized as SRP Domain Boundary Ports (yellow). As soon as a port receives an MSRP declaration it will change to an SRP Domain Core Port (green)

• Once ports become Core Ports they do not revert back to Boundary Ports unless there is a link status event, a Spanning Tree change, or some other action that changes the ports status
SRP Domain Port processing-2

• Notice that the Talker Advertise (1) is changed into a Talker Failed (2) by Bridge-1, which inserts its own BridgeID along with a Failure Code 9 (i.e. egress port is not MSRP capable)

• Bridge-2 simply forwards the Talker Failed (3) from Bridge-1
SRP Domain Port processing-3

• Eventually the Listener Ready (4) makes its way via a ListenerAskingFailed (5) to Bridge-1
• Bridge-1 then marks that port as an SRP Domain Core Port, which reruns the MAP algorithm and changes the Talker Failed (2) to a Talker Advertise (7)
• At about the same time Bridge-1 forwards the Listener Asking Failed (6) to the Talker
SRP Domain Port processing-4

• Bridge-2 receives the Talker Advertise (7) and subsequently changes the Talker Failed (3) to a Talker Advertise (8)

• At about the same time it also creates the reservation and changes the Listener Asking Failed (5) to a Listener Ready (9)

• This Listener Ready (9) reaches Bridge-1, which also creates a reservation and changes the Listener Asking Failed (6) to a Listener Ready (10)
SRP Domain Port processing-5

- When the Listener Ready (10) reaches the Talker Station the Talker may begin streaming the A/V data immediately
SRP Domain Port processing-6

• It is also important to understand that the LeaveAll (A & B) mechanism of MRP can also cause a port to change from a Boundary port to a Core port
• LeaveAll’s occur periodically every 10 to 15 seconds
• Perhaps MSRP should issue a LeaveAll as soon as a port becomes active, which would speed up the entire Core vs Boundary port discovery process
Boundary to Core and back

• As shown, Boundary Ports become Core Ports when the port receives an MSRPDU

• Core Ports change back into Boundary Ports when the port is no longer active, for example:
  – Link status drops
  – Spanning Tree disables the port
  – Management disables the port
SRP Domain Boundary Port behavior

• MSRP declares attributes out Boundary and Core Ports
• This is how the ingress port on Bridge-2 realizes that its neighbor (Bridge-1) is MSRP capable
• MSRP declarations on Boundary Ports use the MRP Application Address 01-80-C2-00-00-22 so that the neighbor bridge will pass them up to their resident MSRP application