MSRP Redundant Stream Reservation Protocol Proposal

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Proposal Aims

• Keep a clear separation between reservation and path selection
• Minimize the modifications to the current MSRP reservation protocol
• Rely on Short Path Bridging (801.1Qca) to select the best and constrained paths for the streams
• Leave the redundancy scheme and its characteristics as a listener’s choice
Proposed Scheme

• Extend the Listener Ready message to allow a Listener to request the Talker to advertise the same stream (same stream ID) thru alternate paths computed by SPB.

• As a result, the redundancy for a given stream could be created.

*The next 3 slides illustrate this proposed scheme*
MSRP – “Legacy” scenario

“Server App”  
Shortest Path Bridging  
Talker  
Listener  
“Client App”

1. Default Shortest Path
   TA (Stream i)
   LR (Stream i)

2. Default Shortest Path
   Stream

“Legacy” case

tsn-phk-redundant-stream-rsv-0813-v2
MSRP 1+n Redundant Streams

“Server App”  Shortest Path Bridging  Talker  Listener  “Client App”

“Legacy” case

1. TA (Stream 1, New_params_TBD)
2. TA (Stream 1)

Redundancy (n new paths requested by the Listener)

3. LR (Stream 1, Additional_Path_Request[1], constrain_params[n])
4. Add Path Request[1, constrain_params[n]]

(q) CP VIDs

5. TA (Stream 1)

Constrained Path [1, n]

n+1 streams

Constrained Path [1, n]

Constrained Path [1, n]
MSRP – n Constrained Streams only

“Legacy” case

Constrained Path(s) only
(n new paths requested by the Listener)
New Parameters

• TA: New parameters
  – TBD

• LR:

  The parameter data structure should support the case where multiple listener LRs for the same stream are merged together

  The listener could optionally indicate its constrain parameters for the default best path to allow the network resource to be optimized

  – Array of Listener IDs
  – Per Listener ID:
    – Reservation/No_Reservation flag (for default best path)
    – Constrain parameters for default best path
    – Nbr of requested additional paths
    – Per requested path: constrain parameters (TBD)
Path Recovery After Failure

- To avoid re-executing the whole n-way exchange after a path failure, the redundancy requests per Stream_ID could be stored in the Talker DB

- Details and other alternatives however are subject to further study
Thank You

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