RAP Backwards Compatibility

A ProAV requirement

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ProAV context

Large install base of devices using MSRP
- A new protocol incompatible with MSRP would be disruptive

Networked ProAV devices will be present in all kind of buildings and industrial context
- Touring is often seen as core ProAV market, but it is just ‘visible tip of the iceberg’
- Strong need for convergence with other protocols in installations

Existing misconception: “AVB is for ProAV, TSN is not”
- Making RAP not backwards compatible would only feed it
- ProAV will make use of TSN for scalability reasons, e.g. backbones connecting MSRP regions.
MSRP in ProAV networks

MSRP is extensively used in ProAV systems

ProAV network size*:
• 8-10k End-stations
• 4-5000 Audio Streams
• 100 Video Streams
• 8-10k Control Streams
• Systems structured in sub-nets

→ MSRP lack of scalability is a known problem!

RAP (+LRP)

- Designed to improve on scalability and performance
- Enabler for converged networks
- Might end up replacing MSRP (+MRP)…

… but there are thousands of active MSRP devices
→ backwards compatibility is necessary!
RAP-MSRP backwards compatibility

Use case:
- large deployments
- RAP backbone
- SRP domains on the edges

Streams:
- talker and listener on SPR domain
  - traversing RAP domain
  - not traversing RAP domain
- talker on SRP domain and listener on RAP domain
  - and the other way around
- talker and listener on RAP domain
How can it be achieved?

On a first glance:
- MSRP – RAP adapter
- Proxy

→ On-going effort within Avnu to find a technical solution.
   The results of that analysis will be presented in a follow-up TSN meeting.
Conclusions

• RAP (+LRP) is the natural successor of MSRP (+MRP)
• Converged networks will create systems with MSRP and RAP
• RAP backwards compatibility with MSRP is a requirement for ProAV networks

Request

• Add the following sentence to the scope of P802.1DD:
  “This standard makes provisions for backwards compatibility with the Multiple Stream Resource Protocol defined in Clause 35 of IEEE Std 802.1Q-2022.”