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# Interfacing between SRP and RSVP or other applications

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# Layering architecture

## □ SRP is a layer 2 protocol

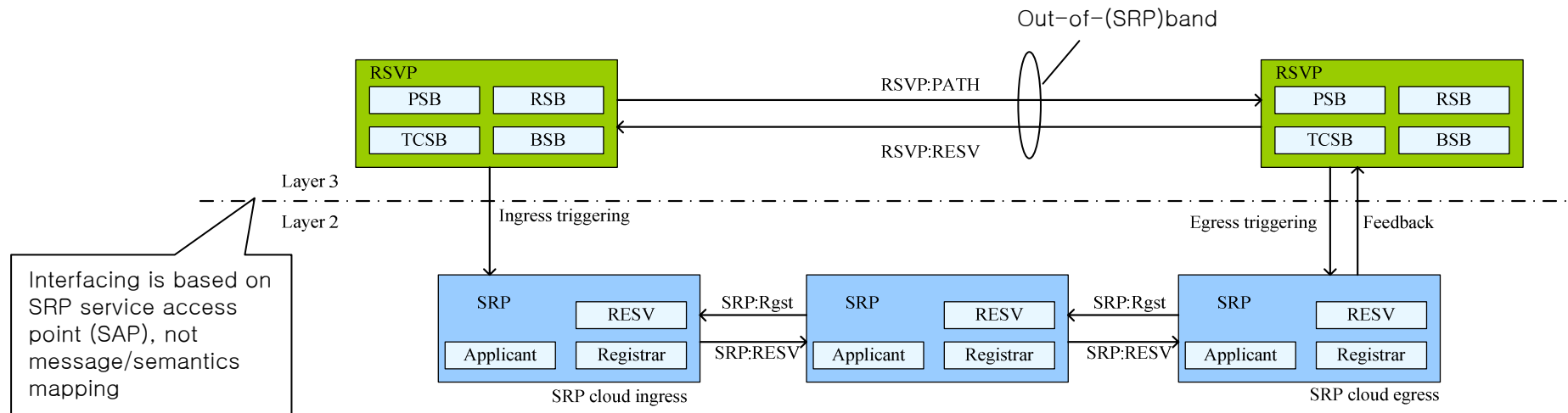
- It takes care of resource reservation within a bridged LAN

## □ RSVP works on layer 3, and sits on the top of SRP

- From RSVP point of view, a SRP cloud can be treated as a transparent layer 2 link between two RSVP peers

## □ RSVP triggers the SRP procedures

- This doesn't necessarily mean that SRP should translate and convey RSVP messages between two RSVP peers or understand the full semantics of RSVP



# Signaling procedures -I

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## □ SRP ingress point can be triggered by RSVP PATH messages

- Layer 2 stream identifier allocation
  - Stream identifier is only meaningful to layer 2 networks, making fast layer 2 forwarding feasible.
  - It needn't be understandable to RSVP, but one-to-one mapping will exist between SRP stream identifier and RSVP session
- TSpec adaptation
  - Sender\_TSpec from RSVP PATH will be adapted for the layer 2 SRP cloud
  - This adaptation has no impact on RSVP signaling, since SRP doesn't convey RSVP messages between RSVP peers
- Any other local housekeeping procedures

# Signaling procedures -II

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## □ SRP egress point is triggered by RSVP RESV messages

- Association between SRP stream identifier and RSVP session
  - When triggered by RSVP RESV messages, SRP egress may have no idea about corresponding SRP stream identifier but only RSVP session (and sender template) information
  - We need a mechanism to associate SRP stream identifier and RSVP session
    - May use any “out-of-(SRP)band” method
      - » For example, UPnP may help in this case
    - Achieve the association via SRP registration and reservation processes
      - » Next slide gives out a possible way to do this

# Signaling procedures -II (cont.)

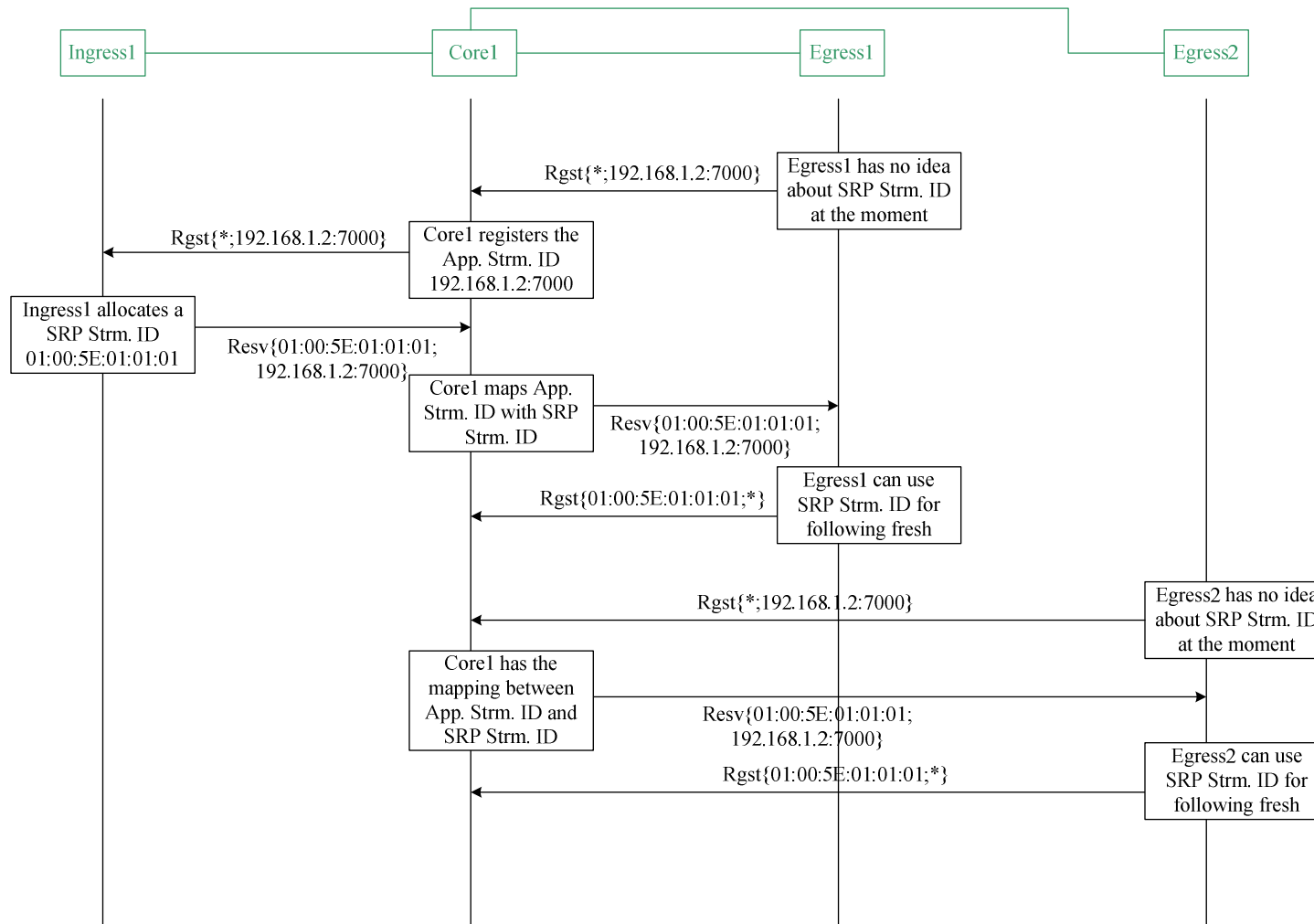
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## □ Achieve association via SRP registration and reservation processes

- Following features can be incorporated into current SRP draft
  - SRP's MRP registration procedure can either register a SRP stream identifier (e.g, in the format of multicast MAC address) if this is known, or an application stream identifier if the SRP stream identifier is not known at the moment
    - e.g., the application stream identifier can be the combination of RSVP session object and sender template, UPnP Traffic Identifier, or even any other LAN-wide unique user defined stream name like “Set-top box channel 1”, etc.
  - SRP software (especially, MRP registrar) keeps either the SRP stream identifier or the application stream identifier or both identifiers for SRP signaling forwarding (not for stream data forwarding, i.e., filtering database)
  - In the case that SRP stream identifier is not known during the registration phase
    - when SRP begins the reservation process (after allocating a layer 2 SRP stream identifier upon the triggering), RESV message will carry both SRP stream identifier and RSVP session information
    - one-to-one mapping between two types of identifiers will be established then along the RESV path in SRP software based on the information carried in RESV message, and stream data forwarding database will be established along the path in bridge hardware (using SRP stream identifier information).

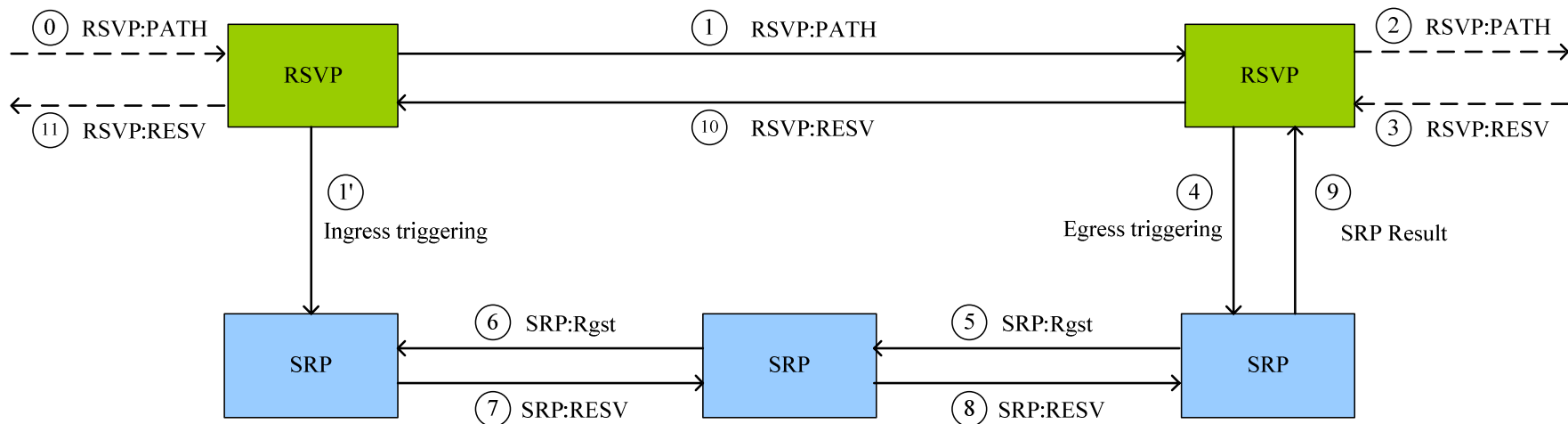
# Signaling procedures -II

- Achieve association via SRP registration and reservation processes



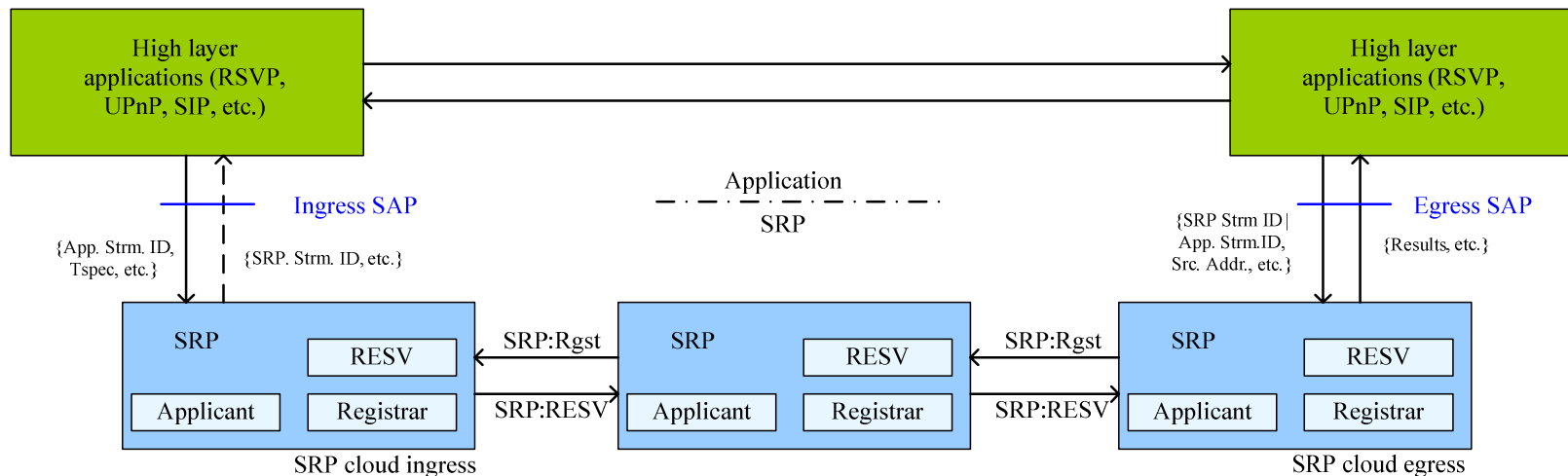
# Signaling procedures -III

- SRP egress point returns back layer 2 reservation result to the triggering RSVP entity
  - RSVP entity takes this result as part of local admission control result
  - RSVP entity is unaware of the signaling procedures happening in SRP cloud



# Other applications

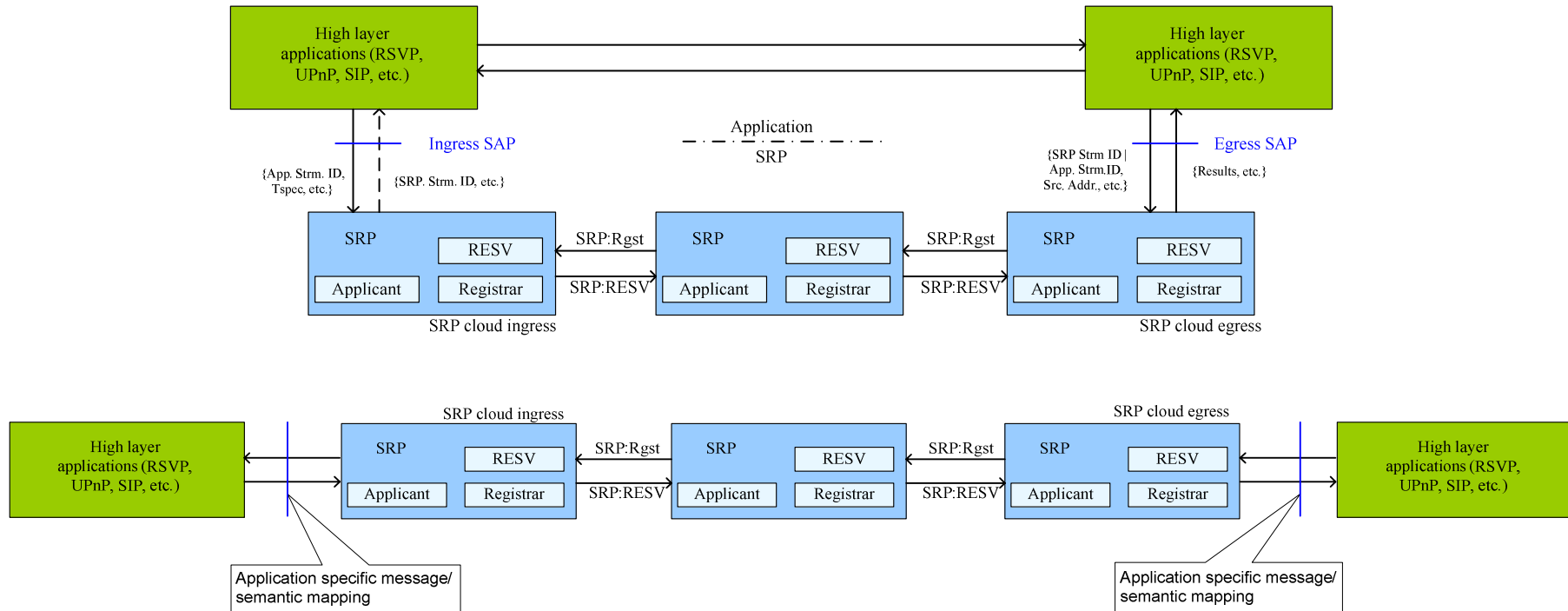
- The approach is not only applicable for interfacing SRP with RSVP, but also for interfacing SRP with any other high layer applications
  - Interfacing through SRP service access point (SAP)
  - Definition of SAP primitives can be general enough to enable different applications





# Summary

## □ Architectural options



## □ SRP/Application stream identifier association options

- "Out-of-SRP band" or "SRP registration/reservation" based