IEEE P802.1Qdd Resource Allocation Protocol (RAP)

Examples for Using Multiple-Context Talker Announce for Redundancy

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Introduction

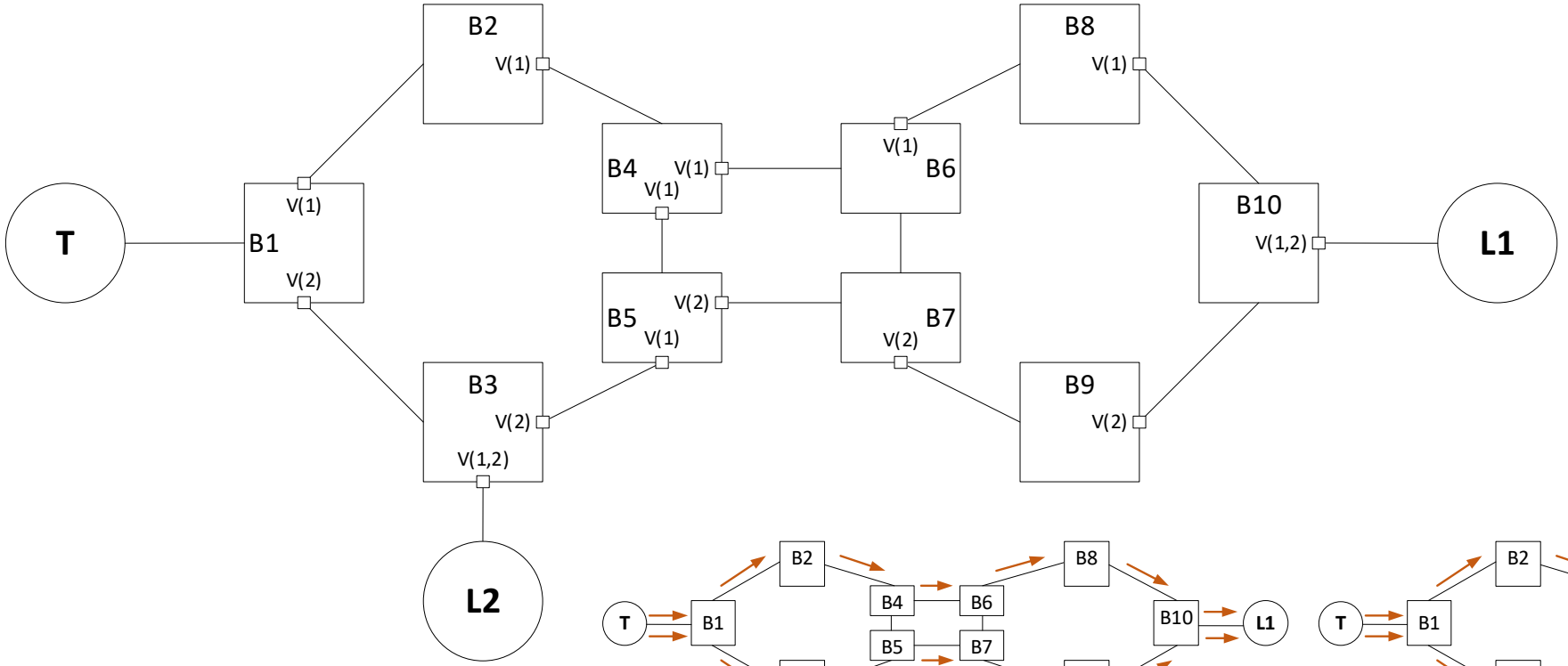
This deck provides the examples for the feature of Multiple-Context Talker Announce used to make reservations for streams transmission over redundant paths, as introduced in P802.1Qdd/D0.2.

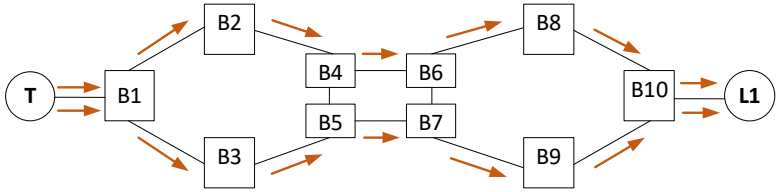
The description and specification for this feature and relevant to this deck can be found in the following subclauses in D0.2:

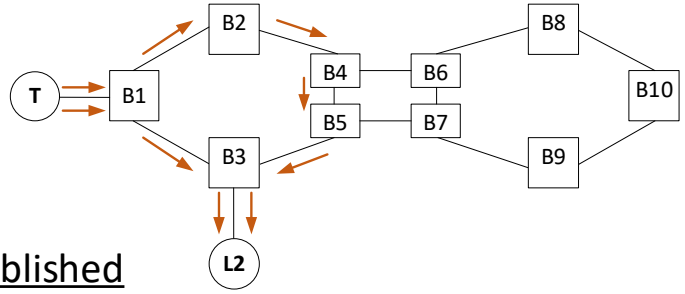
- 99.2.3.1: Talker Announcement
- 99.2.3.2: Listener Attachment
- 99.7.3.7: Redundancy Control sub-TLV
- 99.10.1.1: VLAN context

CB Scenario: End-2-End Redundancy (FRER only in End Stations)

- 2 VLAN contexts provide two redundant paths from Talker to each Listener





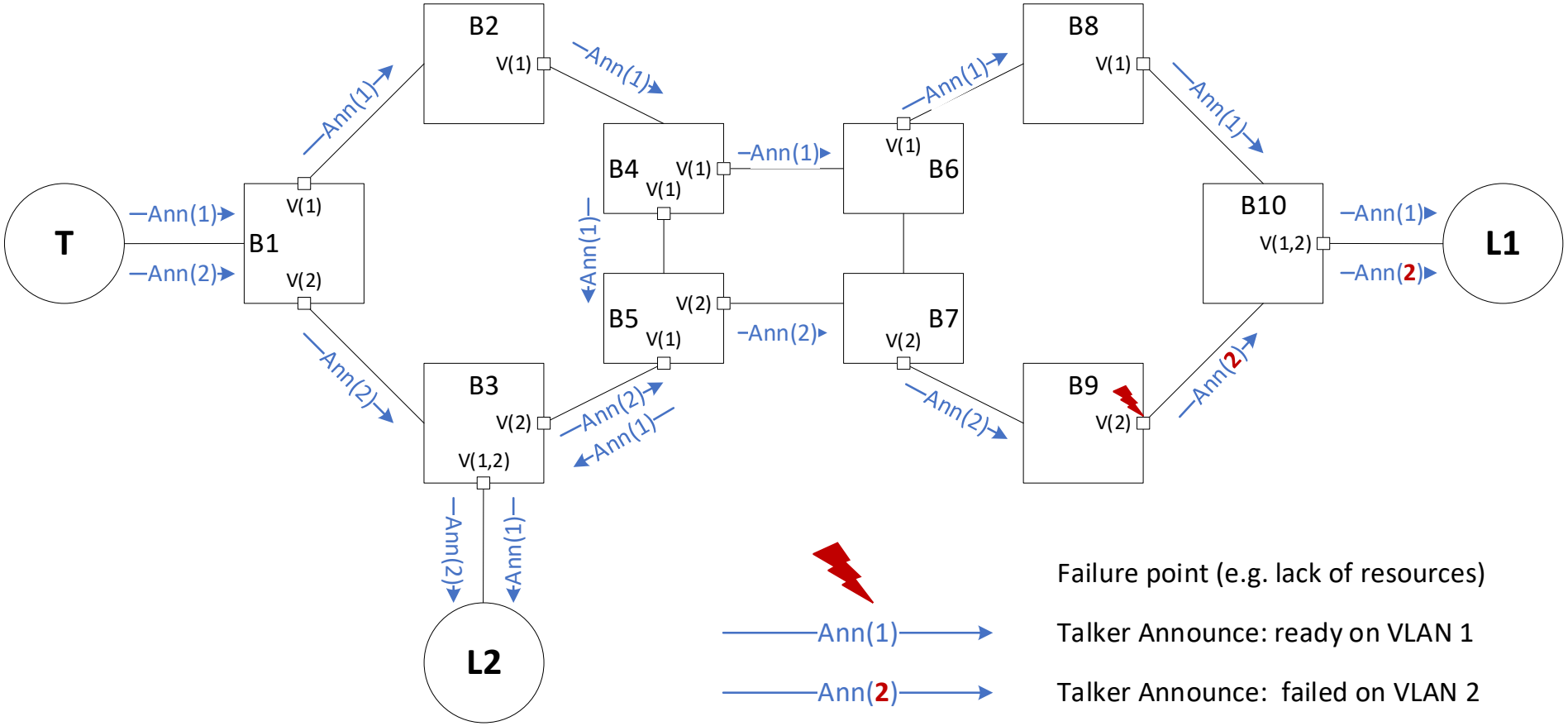


V(1,2)☐ VLAN membership registration on potential stream transmission ports

Redundant stream paths to be established

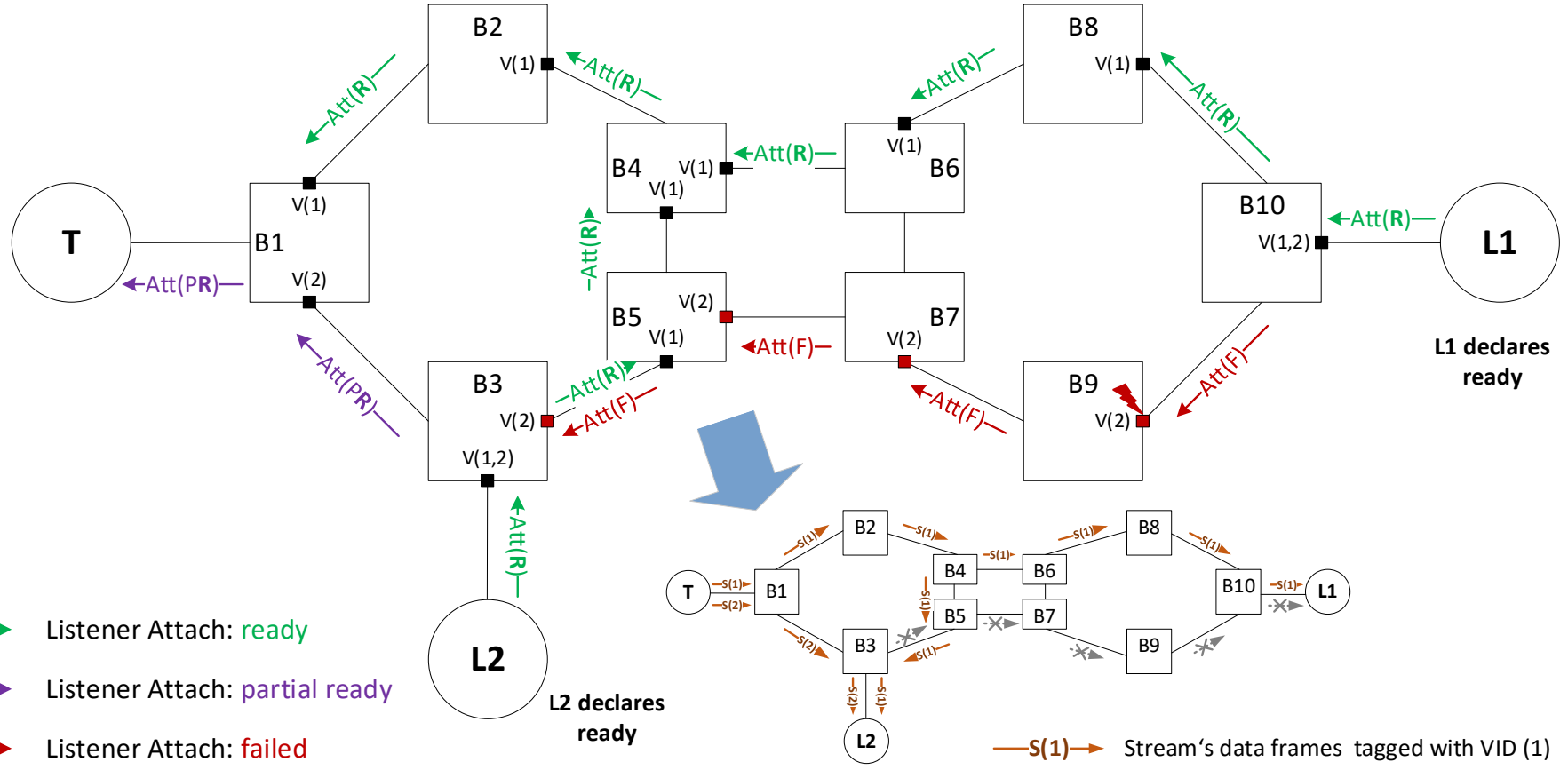
Multiple-Context Talker Announce for End-2-End Redundancy

- Talker declares two Talker Announce attributes, each with one VLAN context.



Listener Attach – Case 1

- Both Listeners accept a minimum of one successful path and declare Listener Attach with “ready”.



—Att(R)→ Listener Attach: ready

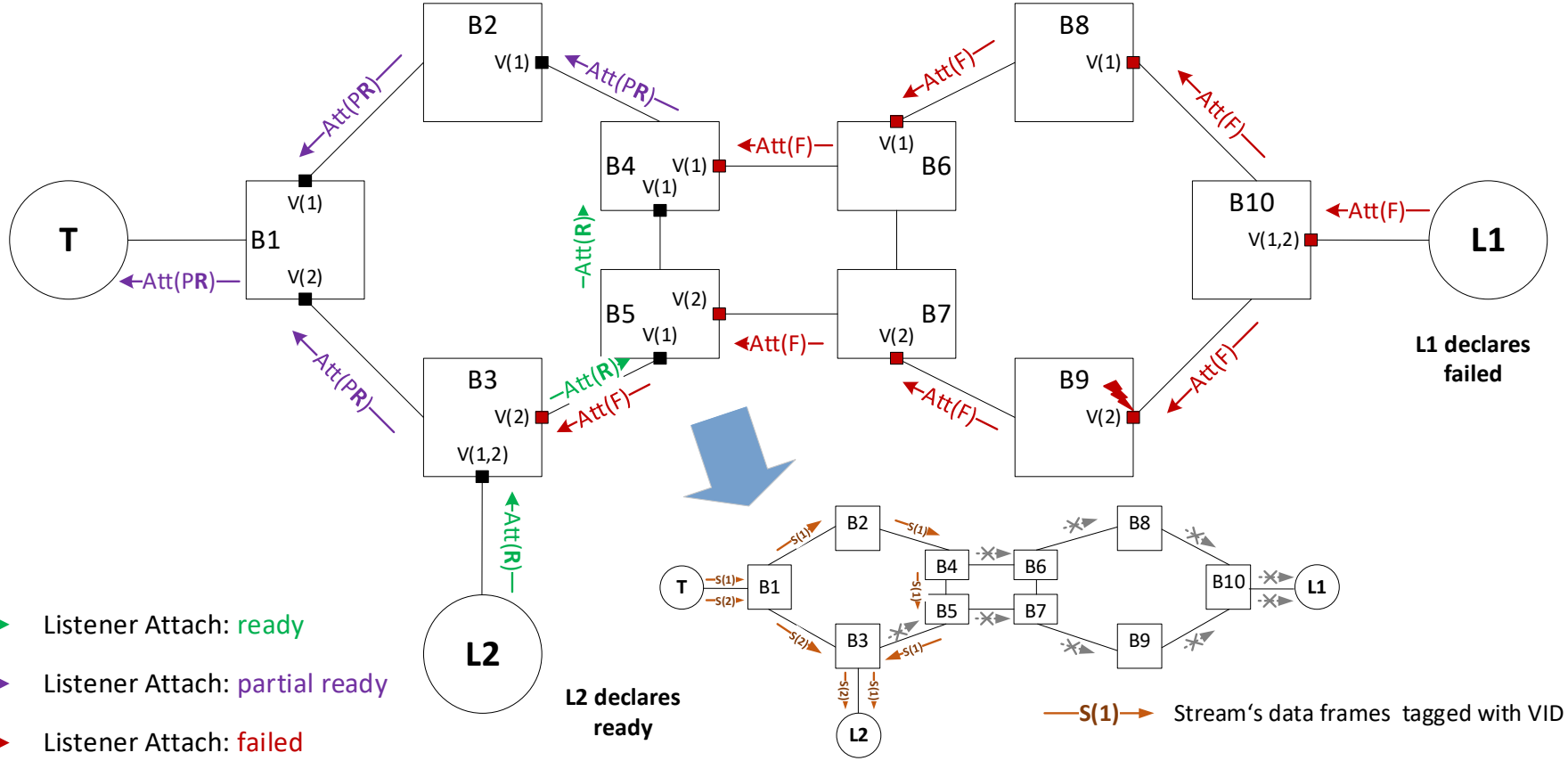
—Att(PR)→ Listener Attach: partial ready

—Att(F)→ Listener Attach: failed

—S(1)→ Stream‘s data frames tagged with VID (1)

Listener Attach – Case 2

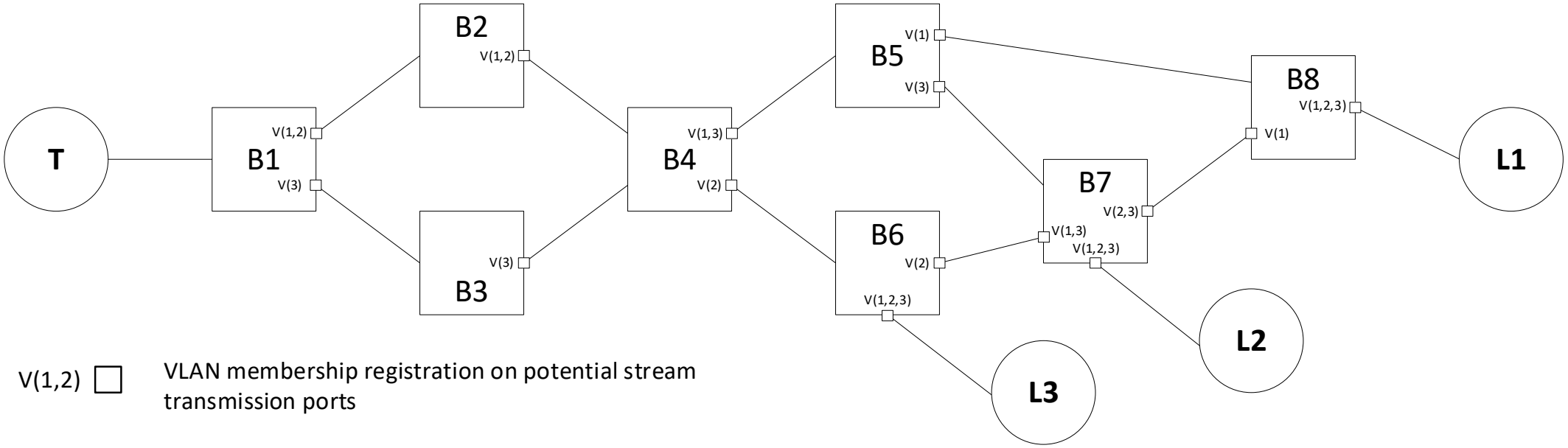
- L1 does not accept only one successful path and declares a Listener Attach with “failed”.



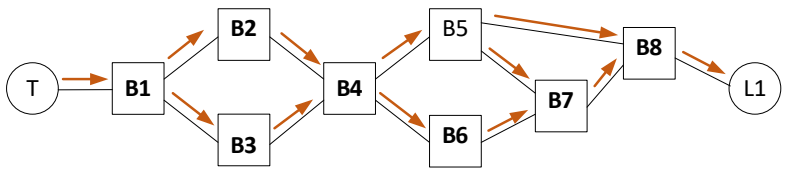
Established stream paths

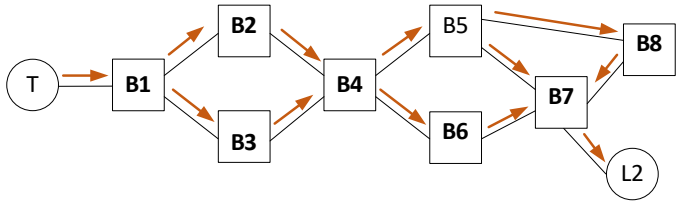
CB Scenario: Network Redundancy (FRER only in Bridges)

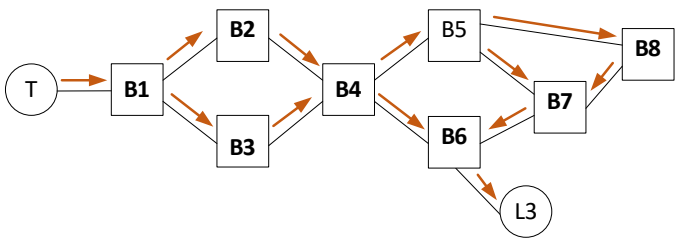
- 3 VLAN contexts provide 3 redundant paths from Talker to each Listener



V(1,2) ☐ VLAN membership registration on potential stream transmission ports



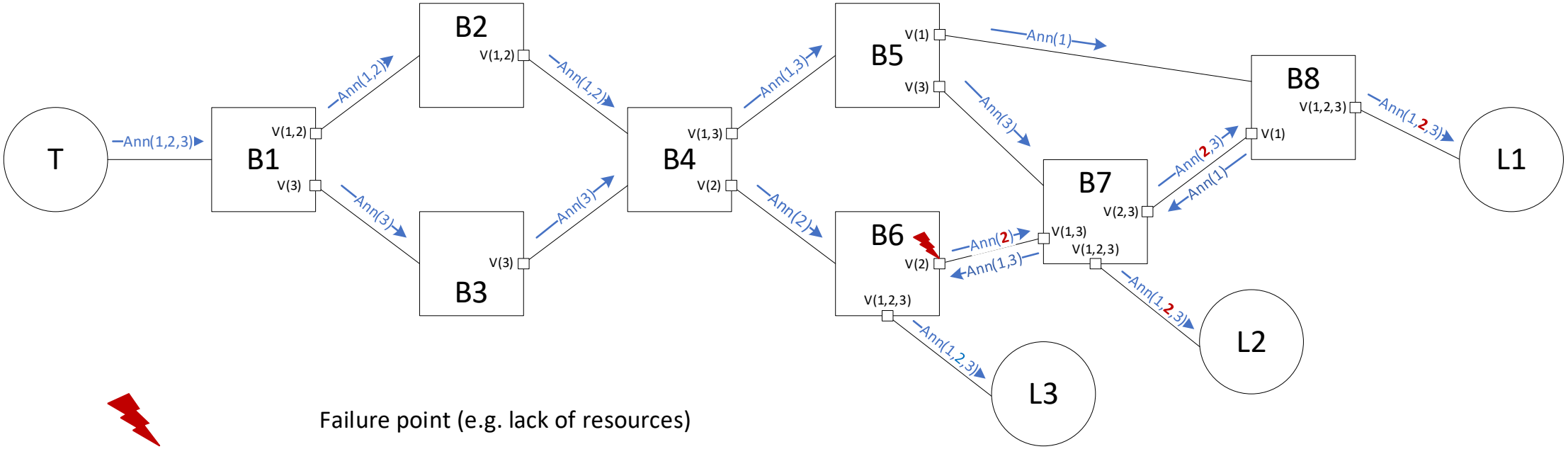




Redundant stream paths to be established

Multiple-Context Talker Announce for Network Redundancy

- Talker declares one Talker Announce attribute to carry 3 VLAN contexts.



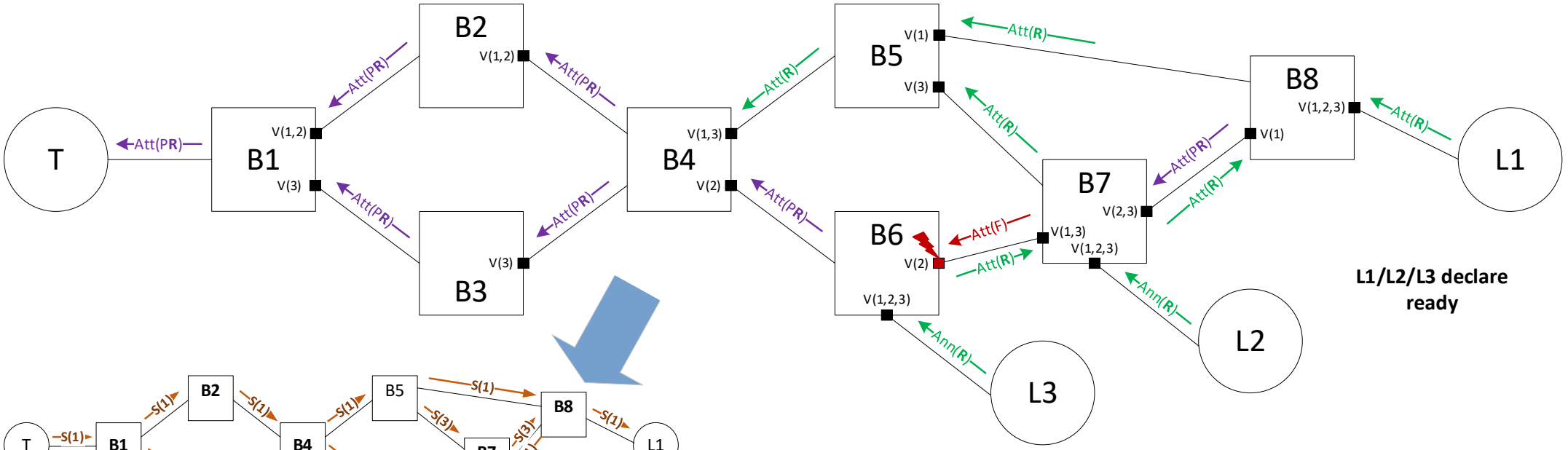
Failure point (e.g. lack of resources)

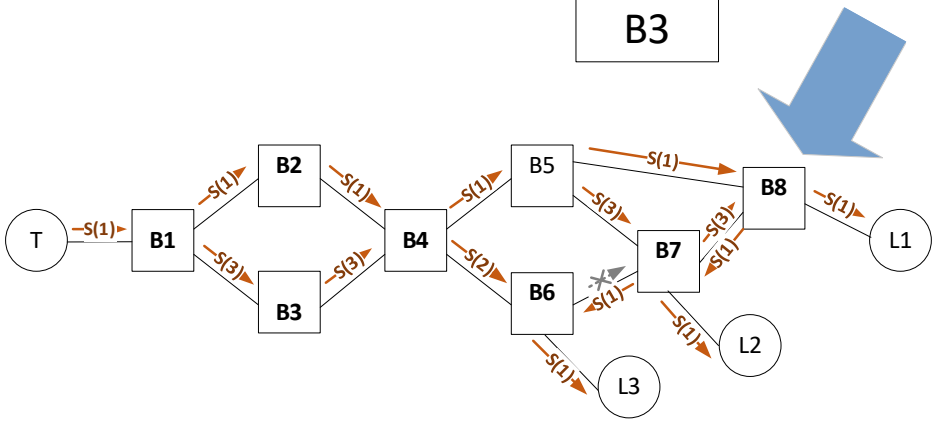
Ann(1,2,3) — Talker Announce: ready on VLAN 1, 2, 3

Ann(2,3) — Talker Announce: ready on VLAN 3, failed on VLAN 2

Listener Attach – Case 1

- All Listeners accept a minimum of 2 successful redundant paths and declare Listener Attach with “ready”.





S(1) Stream‘s data frames tagged with VID (1)

Att(R) Listener Attach: ready

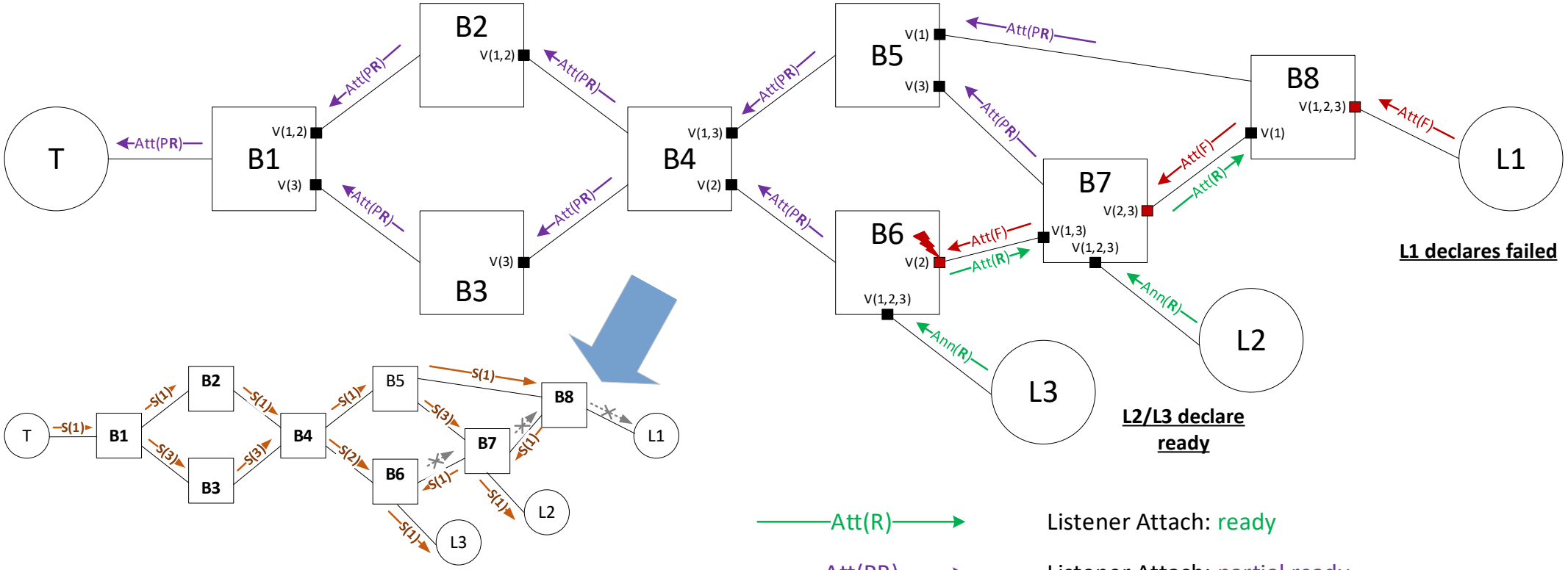
Att(PR) Listener Attach: partial ready

Att(F) Listener Attach: failed

Established stream paths

Listener Attach – Case 2

- L1 does not accept only 2 successful paths and declares a Listener Attach with “failed”.



Att(R) — Listener Attach: ready

Att(PR) — Listener Attach: partial ready

Att(F) — Listener Attach: failed

S(1) — Stream‘s data frames tagged with VID (1)