P802.1CBec

RESET of SeqRcvy

IEEE 802.1 TSN TG
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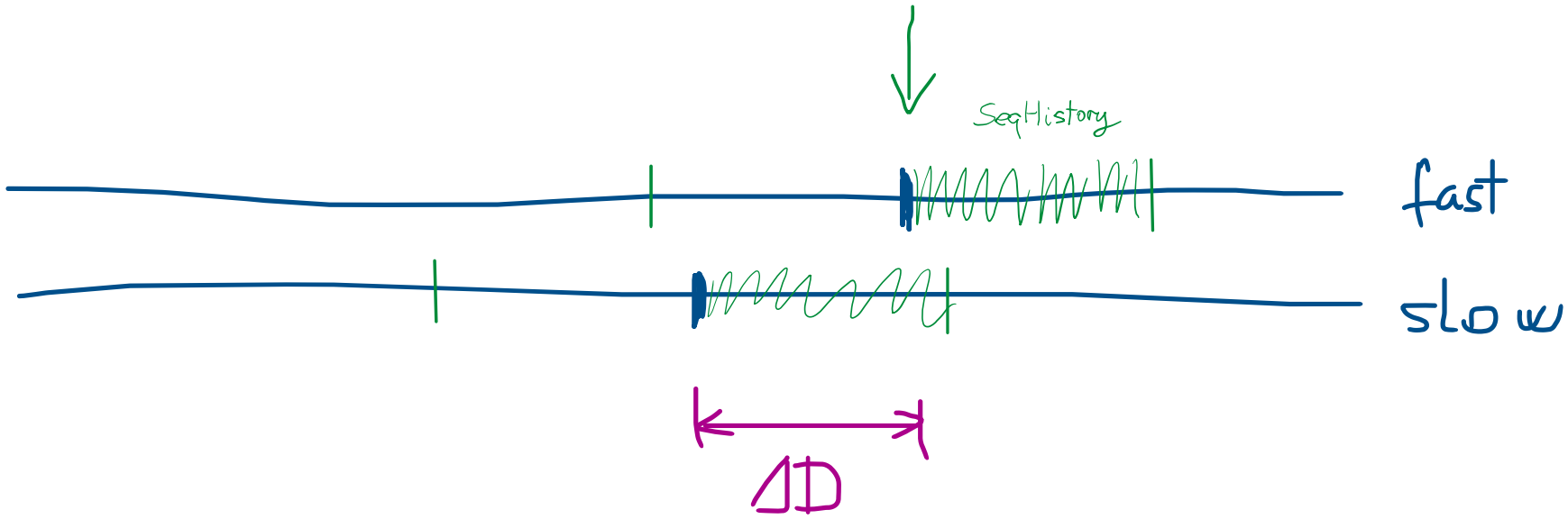
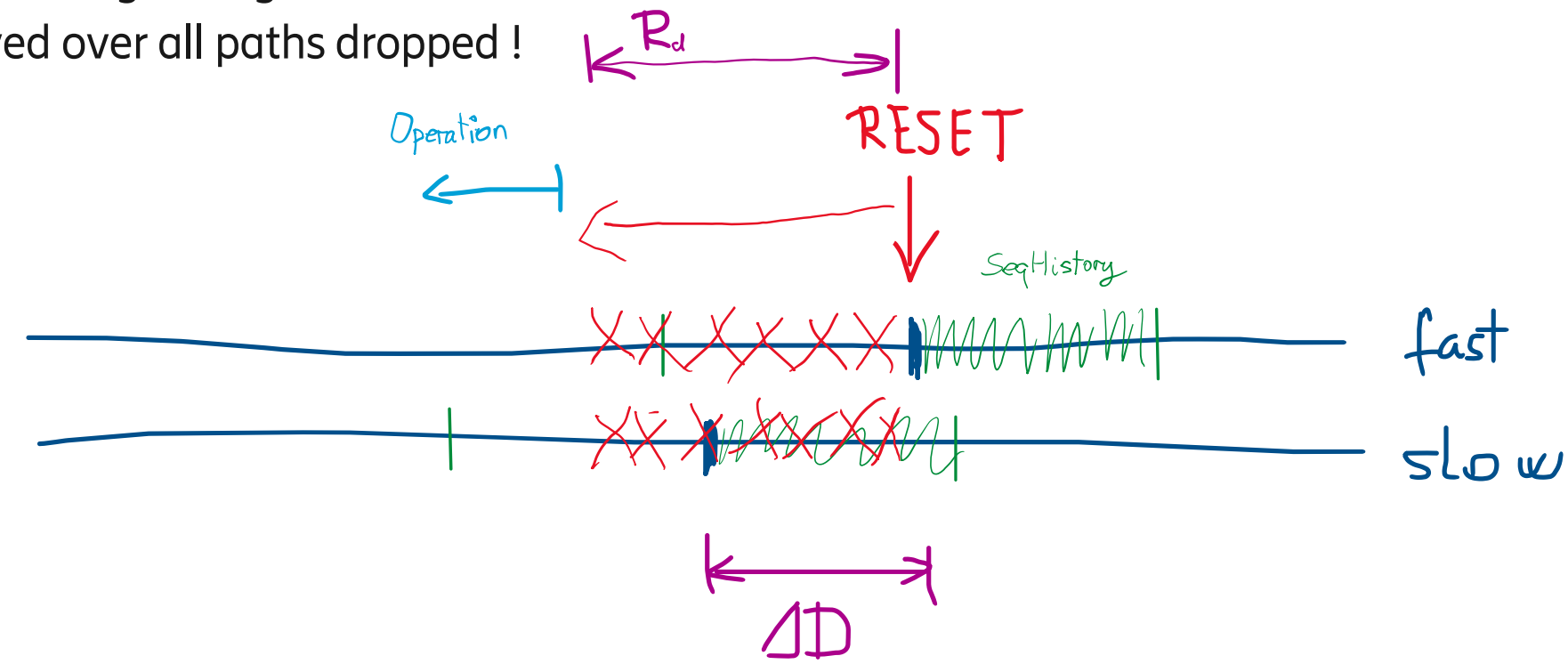
Set2.2, Reset of SeqRcvy

- RESET of SeqRcvy
  - Intrusive by nature: Loss of local state (SequenceHistory)
  - ΔD: max. latency difference between paths



Set2.2, Reset of SeqRcvy

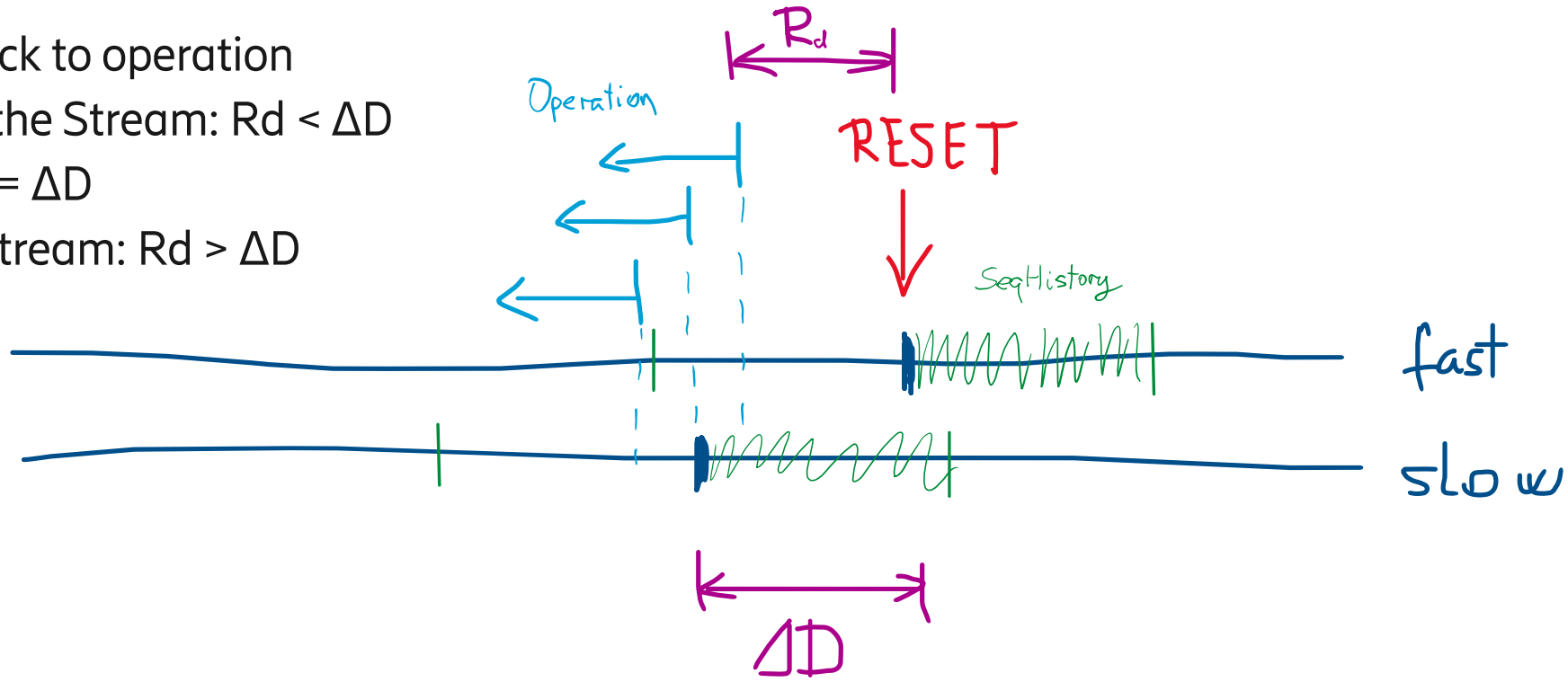
- RESET of SeqRcvy
  - Intrusive by nature: Loss of local state (SequenceHistory)
  - Duration of reset (Rd) depends on implementation
    - No packet processing during reset !
    - Packets received over all paths dropped !



Set2.2, Reset of SeqRcvy

- RESET of SeqRcvy
  - Intrusive by nature: Loss of local state (SequenceHistory)
  - Duration of reset (Rd) depends on implementation (no packet processing during reset!)

  - When SeqRcvy back to operation
    - Duplicates for the Stream: Rd < ΔD
    - No impact: Rd = ΔD
    - Drops for the Stream: Rd > ΔD



Set2.2, Reset of SeqRcvy

- Reset of SeqRcvy
  - Root cause of the issues:
    - There might be in-flight packets in the network
    - Risk of duplicates / drops due to the lost state depending on reset duration
    - Duplicate or drop hurts more? -- > use-case dependent, we should make it controllable

  - Proposed Solution:
    - PostResetGuardTimer: delays the start of packet processing of SeqRcvy
      (Timer starts when reset signal is detected. Received packets of the stream are dropped until timer expires.)
      - = "<Rd", packet processing starts immediately when RESET procedure finished. Results in minimum packet loss, but risk of duplicates (depending on relationship between Rd and ΔD)
      - = "ΔD", results in no duplicates / no drops
      - = ">Rd", packets drop for a while after RESET procedure finished. Results in extra drop(s).
      - Network designer should consider duration of reset (Rd) when setting PostResetGuardTimer.

Discussion