

Open - Replay for configured subscriptions

- Without replay, events are just sent once transport is available.
- There are classes of applications (e.g., [IMA](#)) which require visibility into all events placed into a event stream since boot.
- What is the visibility mechanism for configured subscriptions when there are meaningful events between Publisher boot & the “subscription-started” notification?
- Without a mechanism, only events created after transport is available are visible, which doesn’t meet the requirement for that class of applications.

Lets get WG feedback to hopefully close here...

Options - Replay for configured subscriptions

Option 1: Configured Replay

Current draft

The empty leaf “configured-replay” requires features {configured, replay}.
Events beginning with boot are placed at the front of the stream.

Option 2: Do not explicitly support replay for a configured subscription

To fill functional gap, each receiver needing prior stream info will create a dynamic replay subscription.

- With lots of receivers, this could result in an large number of temporary dynamic replay subscriptions coordinated to boot time.
- Delayed initial stream processing at receiver:
 - At “subscription-started” recognize missing events,
 - pause event processing and buffer incoming events,
 - request missing events via the dynamic subscription,
 - and insert them into the stream in the proper order.
- Receiver won't know when boot occurred, and therefore will subscribe to events pre-boot, and then interpret from the events themselves when boot occurred.
- Receiver must always support dynamic subscription.
 - This may be a new function needed for receivers where network loss is not an issue.
 - For Option 1, if it is not an issue, receiver RPCs can be locked-out (resulting in tighter security)

These functions already needed where you need to recover from packet loss. But often a higher quantity of events might be in play:

- Boot time often longer than network loss
- Event quantities at boot are high
- Dynamic subscription availability delay

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Note: Where there are independent receiver transport sessions for a subscription, these will be established at different times. And different initial events will go to each receiver.