

# **RTCP Extensions for SSM Sessions with Unicast Feedback**

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# Changes

## Draft moving towards completion

1. Many editorial changes, clarifications
2. Alignment with latest version of SDP source filter spec
3. Undo XR packet formats: using our own again

## Known TODOs

1. Editorial stuff (some changes did not make it in)
2. Resolve three open issues...

# Issue 1: RSI Transmission Rate (1)

- **SSM receivers**
  - send RRs according to report interval derived from RSIs
  - Use receiver RTCP bandwidth share (e.g. 3.75%)
- **Distribution Source**
  - Send RSIs following sender intervals, minimum 5s
  - Use sender RTCP bandwidth share (e.g. 1.25%)
- **Consequences**
  - 3.75% RTCP bandwidth share unused towards receivers
  - Group statistics (particularly size!) reporting delayed
  - May provoke implosions

# Issue 1: RSI Transmission Rate (2)

- **Options:**
  - 1) **Allow the Distribution source to use all RTCP bandwidth (e.g. simply generate RSI upon reception of RR)**
  - 2) **Provide a separate bandwidth modifier for RSI?**
  - 3) **What to do about the five second rule?**
- **We can argue either way**
  - **Pro change:**
    - Provider better accuracy
    - Limit scaling problems
  - **Con change:**
    - Simplicity; more compatible with core RTP
    - Save costly forward bandwidth

# Issue 2: RSI Sampling Coverage

- **Distribution collects reports from receivers**
- **Maintains local state information**
- **Sends RSI report when due based on local state**
  
- **Observations**
  - RR and RSI reporting intervals differ
  - RSI state unlikely reflects all receivers
  
- **Provide explicit information on RSI coverage?**
  - E.g. percentage or group covered
  - Common for all RSI report blocks?

# Issue 3: Reduce BYE Reporting

- **Currently, an RTCP BYE from a receiver is reflected several times in RSI packets.**
- **More often than in plain RTP/RTCP**
- **Reason: bound to duplicate SSRC reporting**
  - (which needs to be repeated for reliability)
- **Proposal: just report once**