

RTCP Extension for Source Specific Multicast

`<Draft-chesterfield-avt-rtcpssm-00>`

**Julian Chesterfield
AT&T Research**

Julian@research.att.com

Reasons for Modification

- **RTCP currently only works where all receivers/senders can “hear” each other**
- **RTCP is as important for SSM sessions as ISM/ASM:**
 - **Quality information feedback to sender**
 - **Calculate RTT**
 - **Knowledge of members in a session**
 - **Third party monitoring**

High Level Overview

- Source opens RTP and RTCP channels to all receivers.
- Receivers Unicast feedback to source.
- Source summarises Receiver Report blocks and combines them into report packet. Suggestions:
 - Sender Report, PT 200. Each Report block corresponds to a report from a receiver
 - Sender Summary Report, PT 205. The timestamp information is removed prior to forwarding. This is a saving of 8 bytes per report block.
- Modification to RTCP bandwidth allocation

Recent Architectural Modification Suggestions

- RTCP data forwarded by sender in receiver reports. Reports can be chained in one packet.
- Receivers must then be prepared to handle reports from different receivers in one packet.
- Calculating report interval should be based on individual RRs within main RR packet.

Modifications Cont..

- **After each RR, the SDES packet from each receiver is included. This should contain at least the CNAME.**
- **Draft should not be just SSM sessions, but a more generic unicast feedback mechanism.**
- **Additional security concerns such as source address spoofing to be considered.**

Modifications Cont..

- **The SSM address range therefore is not enough to determine session behavior. Need to use out-of-band session initiation to determine the default receiver behavior.**
- **Maximum MTU recommendation for Receiver Report packets?**

Implementation

- **Currently working on modifications to the UCL RTP library code.**
- **Aware of two other similar implementations.**

Discussion of Issues

- **Is there enough benefit in introducing an SSR type packet format in order to conserve bandwidth?**
- **As the number of receivers grows (e.g. internet radio), is it necessary for all the RR information to be distributed?**
- **As a minimum, receivers need to know SSRs.**

Acknowledgements

- **Thanks to Orion Hodson, Bill Fenner, Marshall Eubanks, Steve Casner and many others at AT&T labs for comments and suggestions**
- **Comments/collaboration welcome....**