Multiple RTP Sessions over a Single Transport Flow

draft-westerlund-avtcore-transport-multiplexing-01

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Outline

- Introduction
- Problem Statement
- Requirements
- Evaluation of Proposals
- Authors Recommendation
- Way Forward

Introduction

- Deployment of Network Address Translators (NAT) and Firewalls (FW) is very common
- This has generated a situation where each additional transport flow comes at;
  - Some additional delay in performing NAT traversal;
  - A risk that NAT traversal fails for some flows causing application failure;
  - A concern over the resource consumption in NAT and Firewalls
- Currently the only specified separator of RTP sessions are transport flows

Problem Statement

- In the RTP multiplexing architecture there is discussion about a number of cases where using multiple RTP sessions are appropriate
- Using multiple RTP sessions currently forces the application to use multiple transport flows.
  - Concerns over the associated costs can prevent the application from making the best choice
- To avoid forcing the applications to select between using multiple sessions and having to pay the extra cost when transport differentiation isn't required a general solution should be defined
- A single solution in this space can minimize interoperability issues

Problem Statement

- Does the WG believe the problem of providing multiple RTP sessions over a single transport flow should be solved?

Requirements

1. Support multiple RTP sessions over one transport flow
2. Enable same SSRC value in multiple RTP sessions
    1. Avoid SSRC translation in gateways/translators
    2. Support existing extensions
3. Ensure SRTP functions
4. Don’t Redefine used bits
5. Firewall Friendly
6. Monitoring and Reporting should still function
7. Usable over Multicast
8. Incremental deployment

› Do people agree this as reasonable set of requirements?

Evaluated Solutions

1. Header Extension
2. Multiplexing Shim
3. Single Session
4. SRTP MKI field
5. Octet in the Padding field
6. Redefine the SSRC field

Comparison

Solution	1	2.1	2.2	3	4	5	6	7	8	OH
Header Extension										8+
Multiplexing Shim										1
Single Session										0
SRTP MKI field										4
Octet in the Padding field										2
Redefine the SSRC field										0

Yes

Partially

No

1. Support multiple RTP sessions over one transport flow
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    1. Avoid SSRC translation in gateways/translators
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Recommendations

- The Authors recommends that the WG develops a solution based on Multiplexing Shim
- The conclusion of Quebec discussion was to do both Single Session and enable multiple sessions on a single transport flow:
  - Multiplexing Shim: draft-westerlund-avtcore-transport-multiplexing-01
  - Single Session: draft-lennox-rtcweb-rtp-media-type-mux-00
  - Signalling: draft-holmberg-mmusic-sdp-bundle-negotiation-00
- Do we need both?