RTP Payload Format for ECN Probing

draft-alexander-rtp-payload-for-ecn-probing-01.txt

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Introduction

- Goal 1: Congestion-based Admission Control
- Goal 2: Path Conformance/Cheater Detection
- Used with another draft to detect congestion and cheating devices:
  - draft-babiarz-tsvwg-rtecn-04.txt: Real-time ECN draft defines new semantics for the Explicit Congestion Notification (ECN) bits in the IP header for real-time inelastic flows
- Used by another draft to provide admission control
  - draft-alexander-congestion-status-preconditions-01.txt: Defines a SIP precondition for admission control
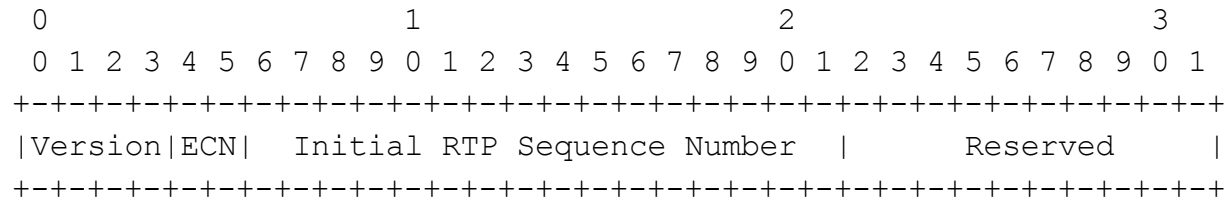
Background

- Real-time ECN draft defines new semantics for ECN marking in the context of real-time inelastic flows
  - Defines two levels of congestion
- draft-alexander-rtecn-use-cases-00.txt outlines the use of Real-time ECN marking and RTP payload format for ECN based admission control

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RTP Payload Format for ECN Probing

- Highlights
  - Dynamically-selected RTP payload type
  - Extendible via *Version* field
  - Packets used for ECN probing for admission control
  - Payload fields currently used only for Path Conformance/Cheater Detection

RTP Payload Format for ECN Probing

- ## Payload format:

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|Version|ECN|  Initial RTP Sequence Number  |     Reserved     |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- ## Fields

  - Version – allows for future extensions
  - ECN – represents ECN value set in IP header by sending device
  - Initial RTP Sequence Number (IRSN) – represents initial RTP sequence number for associated media flow being admitted

RTP Payload Format for ECN Probing

- Both fields are used for cheater detection
  - ECN field used by receiving device during pre-admission probing to compare against received ECN value in IP header
  - IRSN used by sending and receiving devices after successful admission to seed common function to synchronize cheater detection packets
- Use of both fields supposes probe contents are secured

Next Steps

- ## Feedback

  - Format details and use

  - Alternatives

  - Other comments

- ## Q&A

- ## List Discussion