

Last call comments and changes for CCID 3:

- Feedback from Mark Allman, Pengfei Di, Aaron Falk, Ladan Gharai, David Vos.
- Topics raised during last call:
 - The CCID-3 spec is not easy to read.
 - Why so many ways to convey loss?
- VoIP mode with CCID 3 is discussed later

The CCID-3 spec is not easy to read.

- Sally revised it some, including more from RFC 3448, but didn't do a complete rewrite.

Why so many ways to convey loss?

- Revised the discussion of "When Should Ack Vector And Loss Intervals Be Used?"
- If only one method was provided to convey loss, it would be **Ack Vectors**.
- **Loss Intervals** is an alternative to Ack Vectors, for senders that wish to offload more of the work to the receiver. (Also doesn't require that the sender acknowledge the receiver's acknowledgements.)
- If ECN is not used, then the **Loss Event Rate** is sufficient.
- The Loss Event Rate lets the sender offload the most work to the receiver. And Ack Vectors or Loss Intervals could be used by the sender for occasional spot-checks of receiver honesty.

Potential changes should be moved to the appendix.

Done. They are:

- Initial sending rate of more than four pkts per RTT?
- Less than one ack per packet, when the data rate is less than one pkt per RTT?
- More than doubling the sending rate from one RTT to the next?
- Faster restart after an idle period?

The optional procedure for estimating the RTT at the receiver does not work when the inter-packet sending times are greater than the RTT.

- Added a note saying this.

The Loss Intervals option:

- The option reports up to 42 loss intervals seen by the receiver (although TFRC currently uses at most the latest 9 of these).
- The numbers in the spec need to be updated for this: 84->42, 8->9.

Clarifications about the initial rate based on RFC 3390.

- Done.

What does the Loss Event Rate Option report when the loss event rate is zero?

- Added.

Isn't it a problem if you use ECN, and
just use the Loss Event Rate
as feedback on loss?

- **It now says earlier** that if ECN is used, then the receiver **MUST** use either Ack Vectors or Loss Intervals.