Quick-Start for DCCP

draft-fairhurst-tsvwg-dccp-qs-01
(Individual Submission)

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QS for DCCP

- Similar to QS with TCP [RFC 4782]
- Sender MAY use a Quick-Start request:
  - At start of a connection
  - In the middle of a connection
- SHOULD send request on a packet that is acknowledged
New in Revision -01

- Added CCID-2 text
- CCID-3 feedback timer
  - Receiver can use window counter or feedback timer expiry
- Added text on choosing the QS_Rate
- Added QS_Interval
- Resembles TCP...
- When a feedback packet arrives
  - Sets cwnd to actual flight size
- If a feedback packet arrives reporting packet loss
  - MUST immediately leave the Quick-Start Mode
  - Cwnd updated
Problem Statement: QS Interval

- DCCP flows have an incentive to use QS during flow
  - Change of codec
  - Restart after “idle”

- What happens if you send a QS-Request too often?
  - Annoy routers (perform work on slow-path)
  - Steal capacity from the QS pool - particularly in multi-hop path
• Initial QS_Interval = Max(4* current_RTT, 1 sec)
  Reset back to this next time, if successful

• What if you don’t get a QS-Approval?
  Exponential Backoff
  QS_Interval = Max(4*current_RTT, 2*previous QS_Int)

  Until 64 seconds…
  Sender must give-up!

Loss of a QS-Request/Response also terminates QS
What Next?

- Structure of draft complete

Next Revision
- Need to think about implications and issues in deployment
- Some simulation
- Other people’s comments most welcome

So…. We think ready to become a WG Draft…