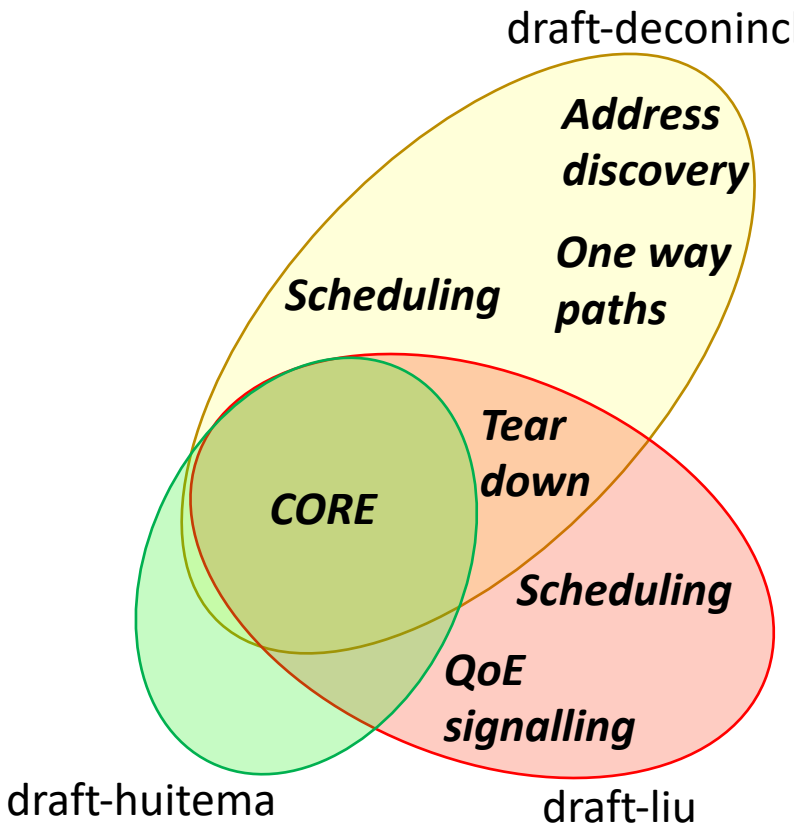
Multipath Scope and Building Blocks

Christian Huitema

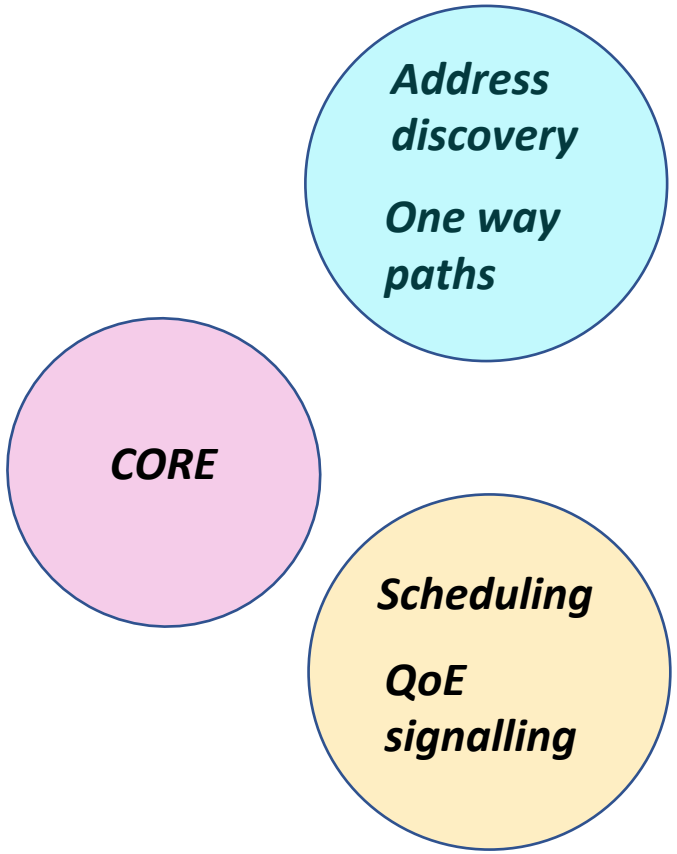
October 13, 2021

QUIC multipath, 3 proposals



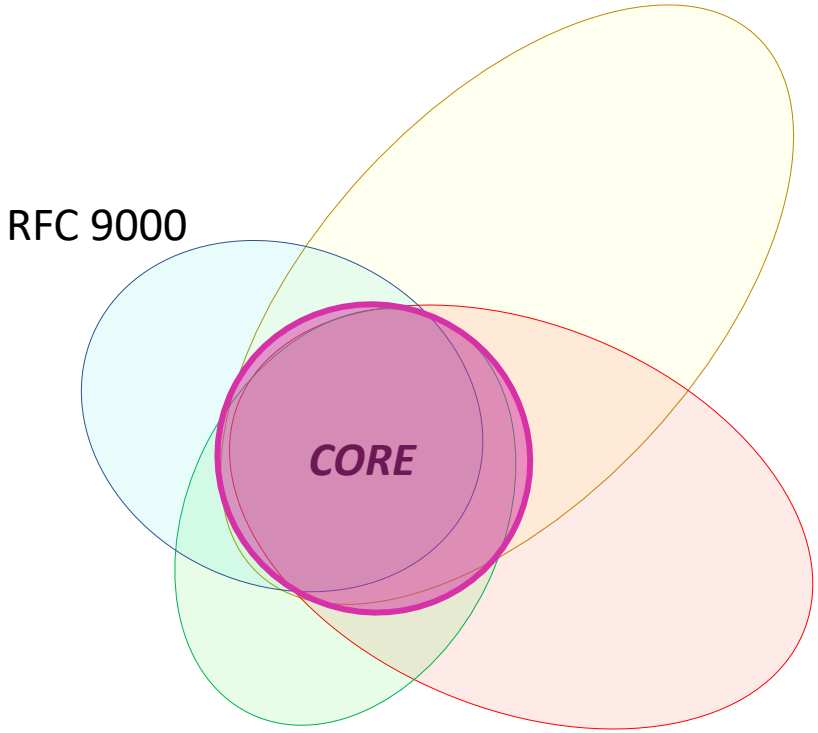
- Multipath core
  - Path setup, validation, teardown
  - Connection ID, path ID
  - Packet numbers, ACK
  - Loss recovery
- Scheduling
  - Choice of sending path
  - Ties to application quality of experience
- Multipath extensions
  - One way paths
  - Address discovery and selection

Early agreement, slice, split and focus



- Core multipath draft
  - Current focus
  - Building block for all applications
- Scheduling drafts
  - Process in parallel
  - Maybe tied to applications
- Multipath extensions drafts
  - Optional components
  - Longer term

First, let’s work on multipath core



- Build on RFC 9000
  - Address validation
  - Path validation
  - Per path congestion control
- Replace “migration” by “simultaneous”
- Focus on mechanics
  - Transmit packets
  - Efficient loss recovery, etc.
  - Default scheduling