

# Flow-state signaling and QUIC (draft-trammell-plus-statefulness)

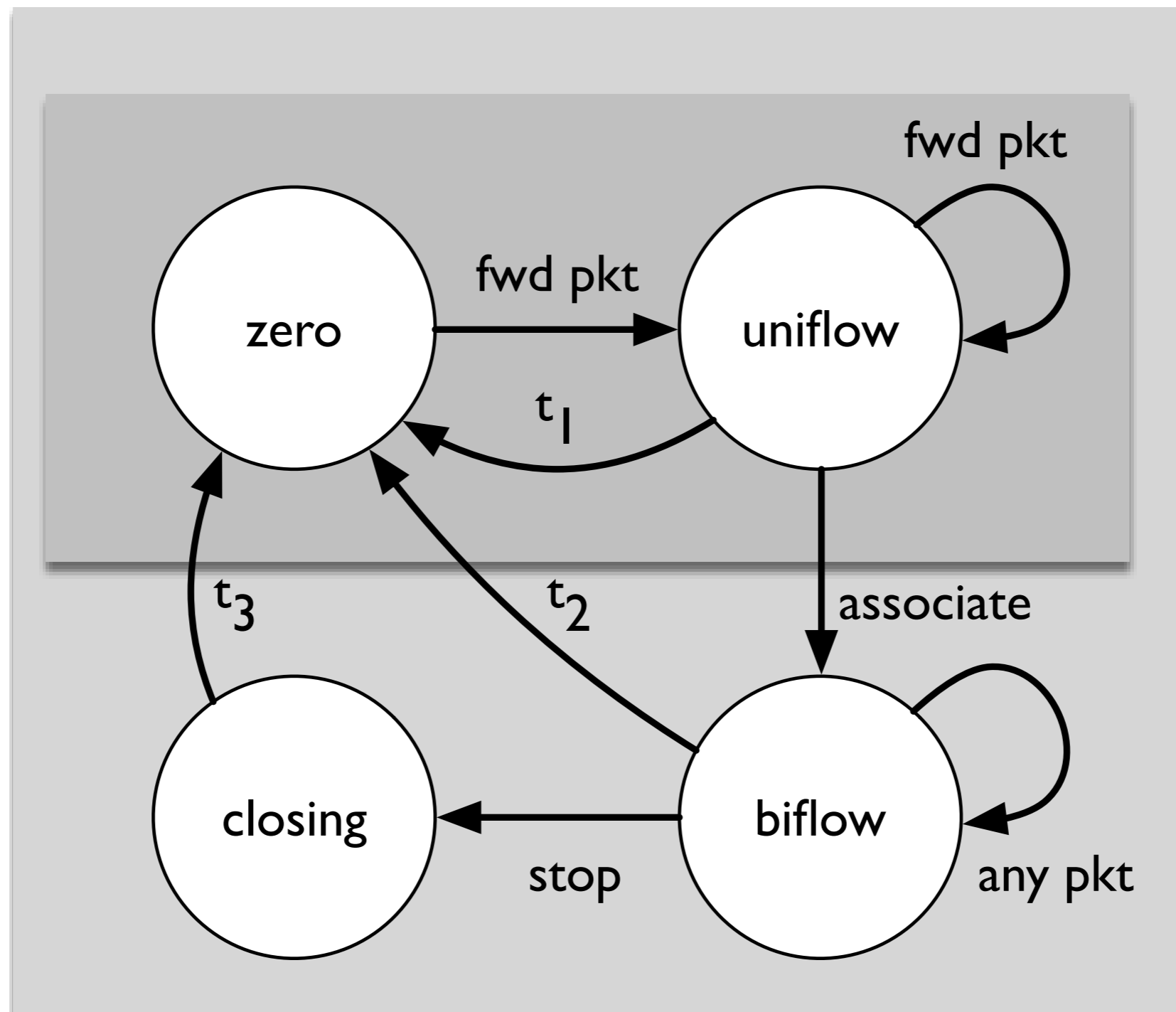
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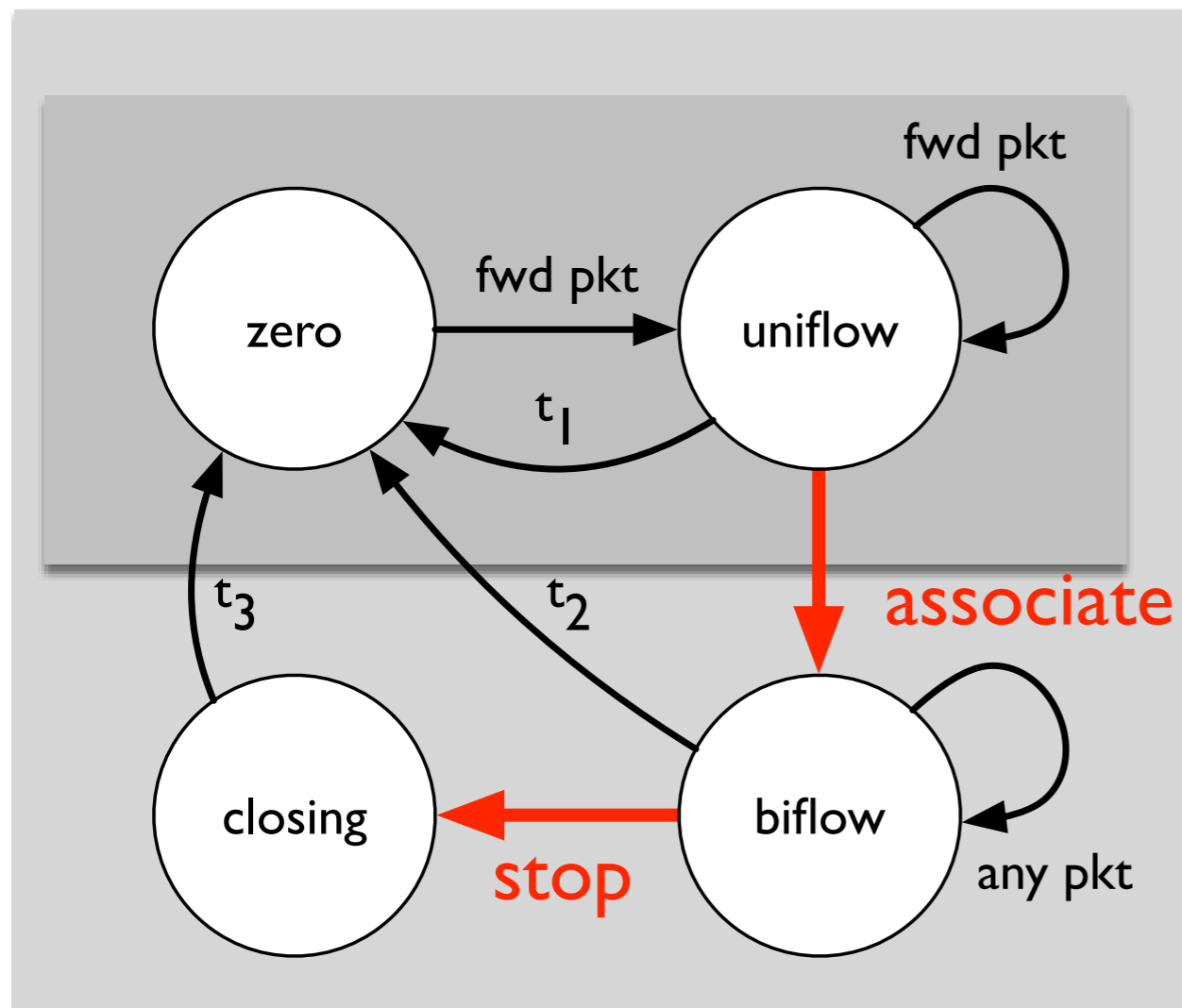
# A Problem

- Lots and lots of state-keeping devices on path...
  - ... that assume TCP semantics
  - ... won't work with non-TCP transports
- UDP-based transports need:
  - frequent keepalives
  - explicit directional rules or port mapping
  - other nasty hacks
  - or fall back to TCP.
- Common *wire image* for UDP-based, encrypted transport protocols like QUIC.

# A Solution



# Why should QUIC care?



- Requires two signals to drive:
- Associate: “receiving endpoint thinks this traffic is good, OK to send more,” replaces SYN/ACK.
- Stop: “receiving endpoint stopping connection or thinks this traffic is bad,” replaces FIN, RST.

# How to add to QUIC?

- Associate *almost exists*: initial recipient sends back packet to initial sender with the same Connection ID, assume connection is OK.
- Works in the middle of a connection (e.g. on firewall restart), as long as you see ACKs / keepalives.
- Stop *needs a new signal*. If every QUIC connection ended with the equivalent of a Public Reset, this would be sufficient.