



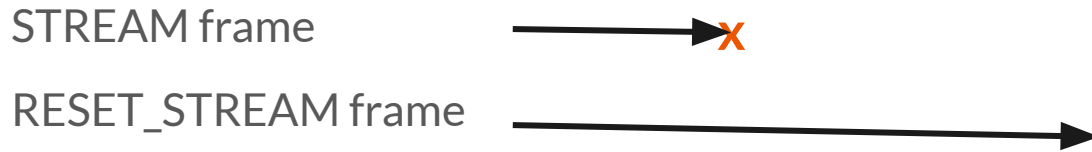
QUIC Reliable Stream Resets

[draft-seemann-quick-reliable-stream-reset-00](#)

Marten Seemann, QUIC WG, IETF 115



QUIC Stream Resets



- don't retransmit STREAM frame(s)
- don't deliver STREAM data to application
- instead: surface reset error immediately



What if the **STREAM** data contained a stream identifier?

- Common pattern: Applications prefix stream data with an application-layer identifier
 - for example: WebTransport Session ID
- Application-layer message may be composed of a header + body

Stream Identifier


Stream Data



RELIABLE_RESET_STREAM frame

Looks like a RESET_STREAM frame, with one additional field

```
RELIABLE_RESET_STREAM Frame {  
  Type (i) = 0x72,  
  Stream ID (i),  
  Application Protocol Error Code (i),  
  Final Size (i),  
  Reliable Size (i),  
}
```





RELIABLE_RESET_STREAM



Reliable Size



Final Size



RESET_STREAM is just a degenerate RELIABLE_RESET_STREAM



Reliable Size = 0



Final Size



Endpoint behavior

- Retransmit STREAM data up to *Reliable Size*
- Drop retransmissions for everything after that
- Deliver STREAM data up to *Reliable Size* to the application
- Then: surface the stream reset error


Implementation Complexity

Changing the QUIC stream state machine sounds scary!

↶ 4 commits 📄 7 files changed

🕒 Commits on Nov 5, 2022


implement parsing and writing of RELIABLE_RESET_STREAM frames

 marten-seemann committed yesterday

unpack RELIABLE_RESET_STREAM frames

 marten-seemann committed yesterday

implement receiver side behavior for RELIABLE_RESET_STREAM

 marten-seemann committed yesterday

🕒 Commits on Nov 6, 2022

implement sender side behavior for RELIABLE_RESET_STREAM

 marten-seemann committed 39 seconds ago ●

📄 Showing 7 changed files with 406 additions and 57 deletions.

```
> git diff master --stat -- '!:*_test.go'
```

internal/wire/frame_parser.go		2	+ -
internal/wire/reset_stream_frame.go		47	+++++++-----
internal/wire/stream_frame.go		2	+ -
receive_stream.go		21	+++++--
send_stream.go		114	+++++++-----
5 files changed, 136 insertions(+), 50 deletions(-)			



Thoughts?



WebTransport Stream Architecture

