

Fee Management

Chaincode LN residency - NY 2019

Fabrice Drouin <fabrice.drouin@acinq.fr> - <https://acinq.co/>

The Problem

- LN TL;DR: nodes exchange messages to update a transaction that is **not published (offchain)** but is **publishable**
- What does publishable mean ?

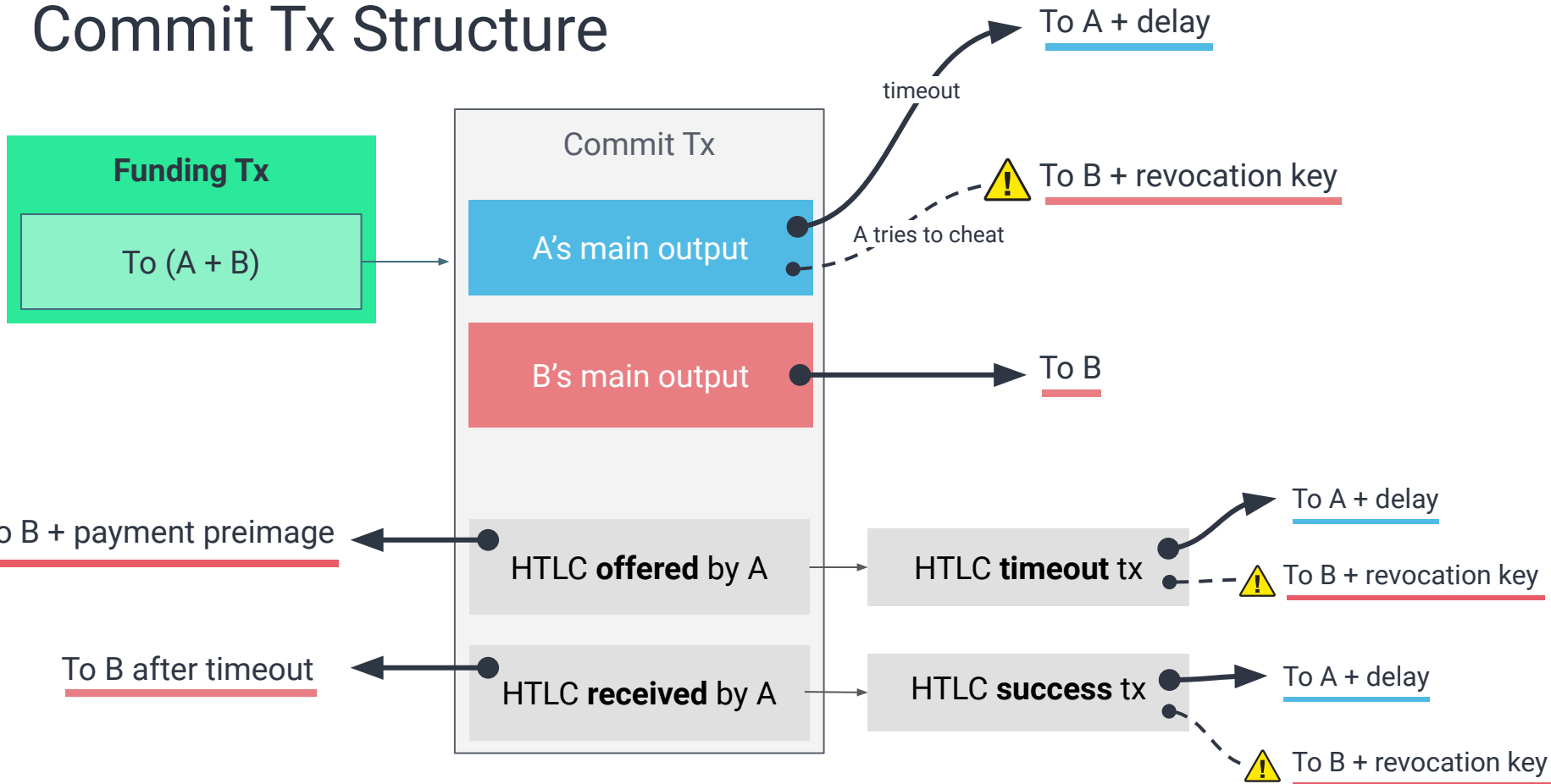
The Problem

- LN TL;DR: nodes exchange messages to update a transaction that is **not published (offchain)** but is **publishable**
- What does publishable mean ?
 - The UTXO that is spends are still spendable
 - It is fully signed
 - It pays fees which are “realistic” :(

Fee Management: Current Status

- Funder pays onchain fees
- Funder can send `update_fee` message to change onchain fees
- Fundee can refuse an update and close the channel. Why ?

Commit Tx Structure



Fee Management: Current Status

- Funder pays onchain fees
- Funder can send `update_fee` message to change onchain fees
- Fundee can refuse an update and close the channel. Why ?
 - If fees are too low it will take forever to get their money back
 - More importantly, HTLC transactions need to pay fees too !

Operational issues

- “Fee rate mismatch” = **most common cause of channels getting closed**
- Implementations have all become very lax
 - This could cause other problems
- Predicting a “good” fee rate is impossible

Bring your own fees ?

You have a signed bitcoin tx. How do you increase fees without signing again ?

Wallet Management

- LN wallet: onchain + offchain funds
- Onchain:
 - Call into separate onchain wallet
 - Implement your own
 - LN UTXO management ? Specific key derivation, timeouts...

Wallet Management

- Use External Wallet
 - Easy to backup/restore
 - More onchain transactions
- Custom UTXO management
 - Less onchain txs => less fees
 - Harder to backup/restore
 - UTXO need to be old enough before you can use them