

Assets on the Lightning Network with RGB



Who are we?

- RGB focused team inside Bitfinex
- Developed Iris Wallet, an RGB wallet for Android
- Released multiple RGB devs tools such as rgb-lib
- Recently released rgb-lightning-sample, an RGB compatible lightning node based on LDK

Quick recap of RGB

Issuance contract

Name: Red Token
Ticker: RED
Supply: 100

Owner: UTXO A



Ownership transfer

From: UTXO A
To:
20 RED to UTXO B
80 RED to UTXO C



Committed in bitcoin tx
spending UTXO A



Ownership transfer

From: UTXO B
To:
6 RED to UTXO D
14 RED to UTXO E



Committed in bitcoin tx
spending UTXO B

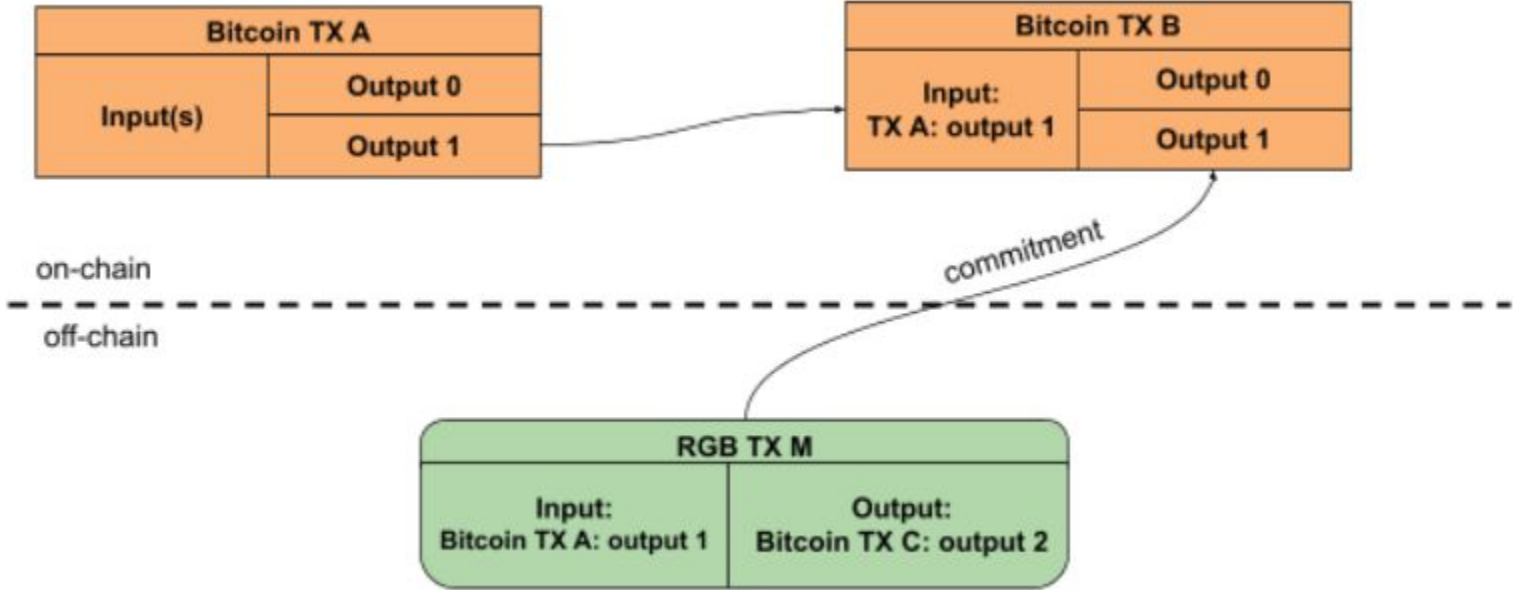


Ownership transfer

From: UTXO E
To:
4 RED to UTXO F
10 RED to UTXO G



Committed in bitcoin tx
spending UTXO E



Why RGB on LN

- Digital Assets can enjoy LN speed and low fees, while also benefiting from Bitcoin security
- Stablecoins are an evident use case that could widely benefit from LN
- Having stablecoins building infrastructure on LN is good also for Bitcoin itself
- More routing volumes help nodes to cover their infrastructure costs

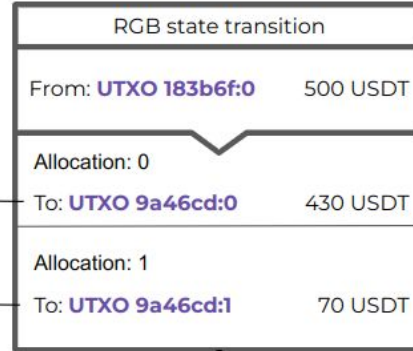
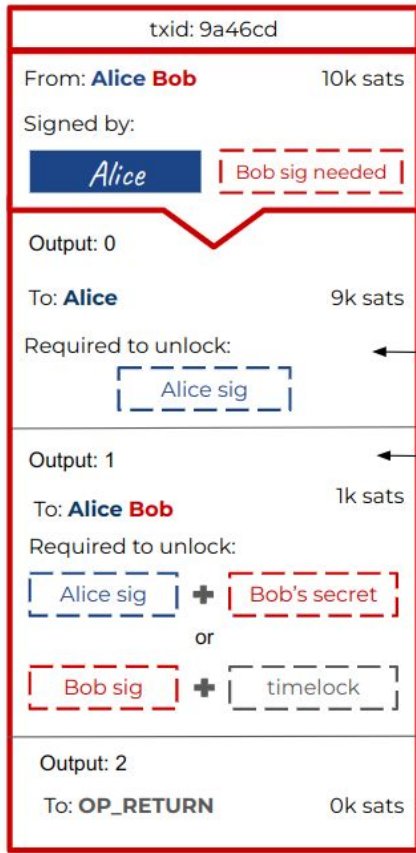
General idea

- Send assets to the multisig UTXO of a lightning channel opening
- At every channel update, create a new pair of RGB state transitions send the assets to the output of lightning commitment transactions
- When the channel closes, each party moves the assets from the lightning commitment transaction UTXO, to one they exclusively control

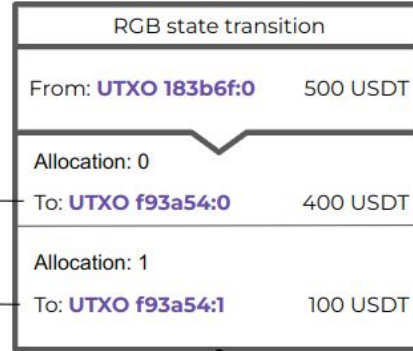
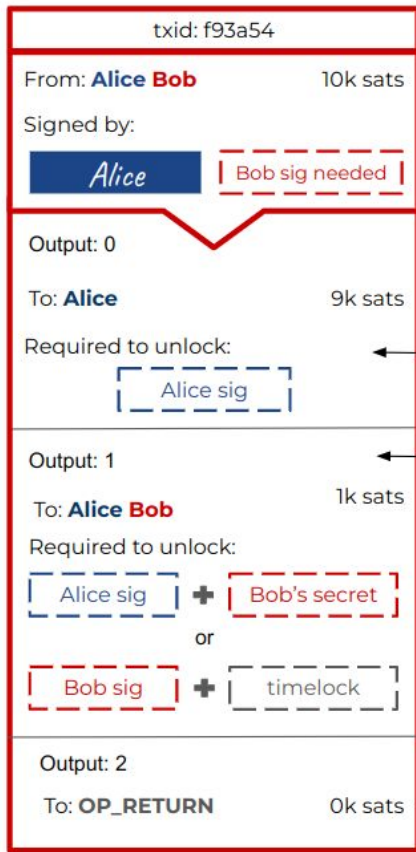
txid: 183b6f	
From: Alice	10k sats
Signed by:	
<i>Alice</i>	
Output: 0	
To: Alice Bob	10k sats
Required to unlock:	
Alice sig	Bob sig
Output: 2	
To: OP_RETURN	

RGB state transition	
From: Alice's UTXO	500 USDT
Allocation: 0	
To: UTXO 183b6f:0	500 USDT

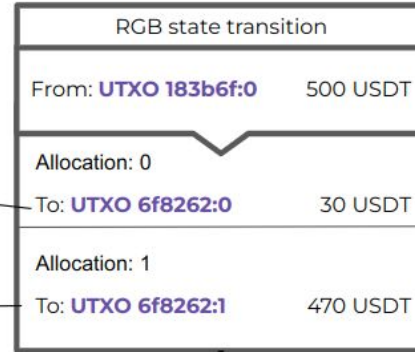
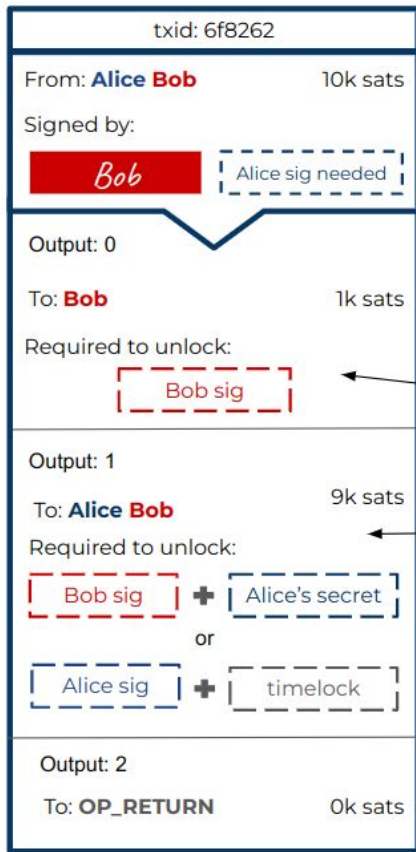
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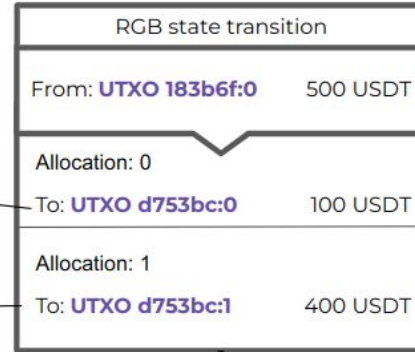
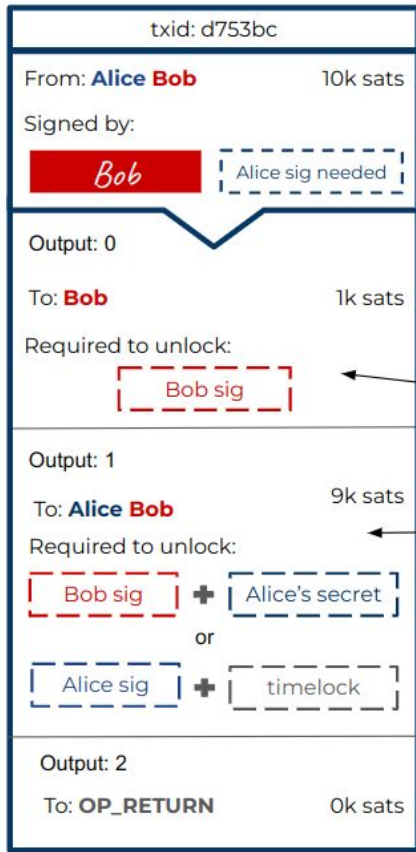
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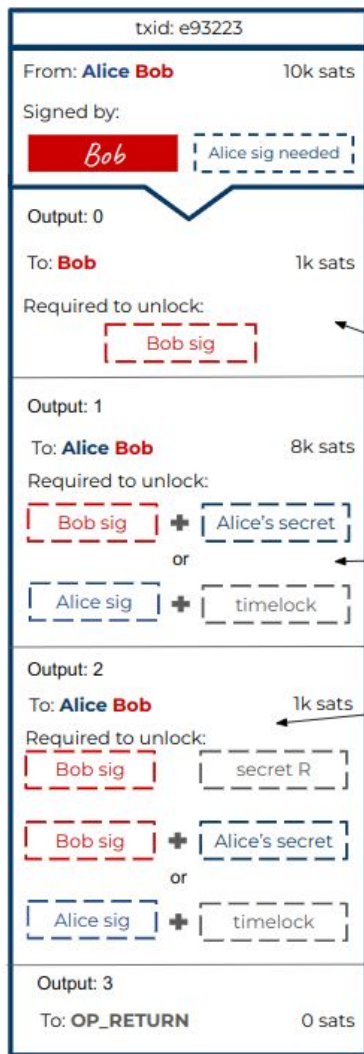
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RGB state transition	
From: UTXO 183b6f:0	500 USDT
Allocation: 0	
To: UTXO e93223:0	70 USDT
Allocation: 1	
To: UTXO e93223:1	330 USDT
Allocation: 2	
To: UTXO e93223:2	100 USDT

anchor