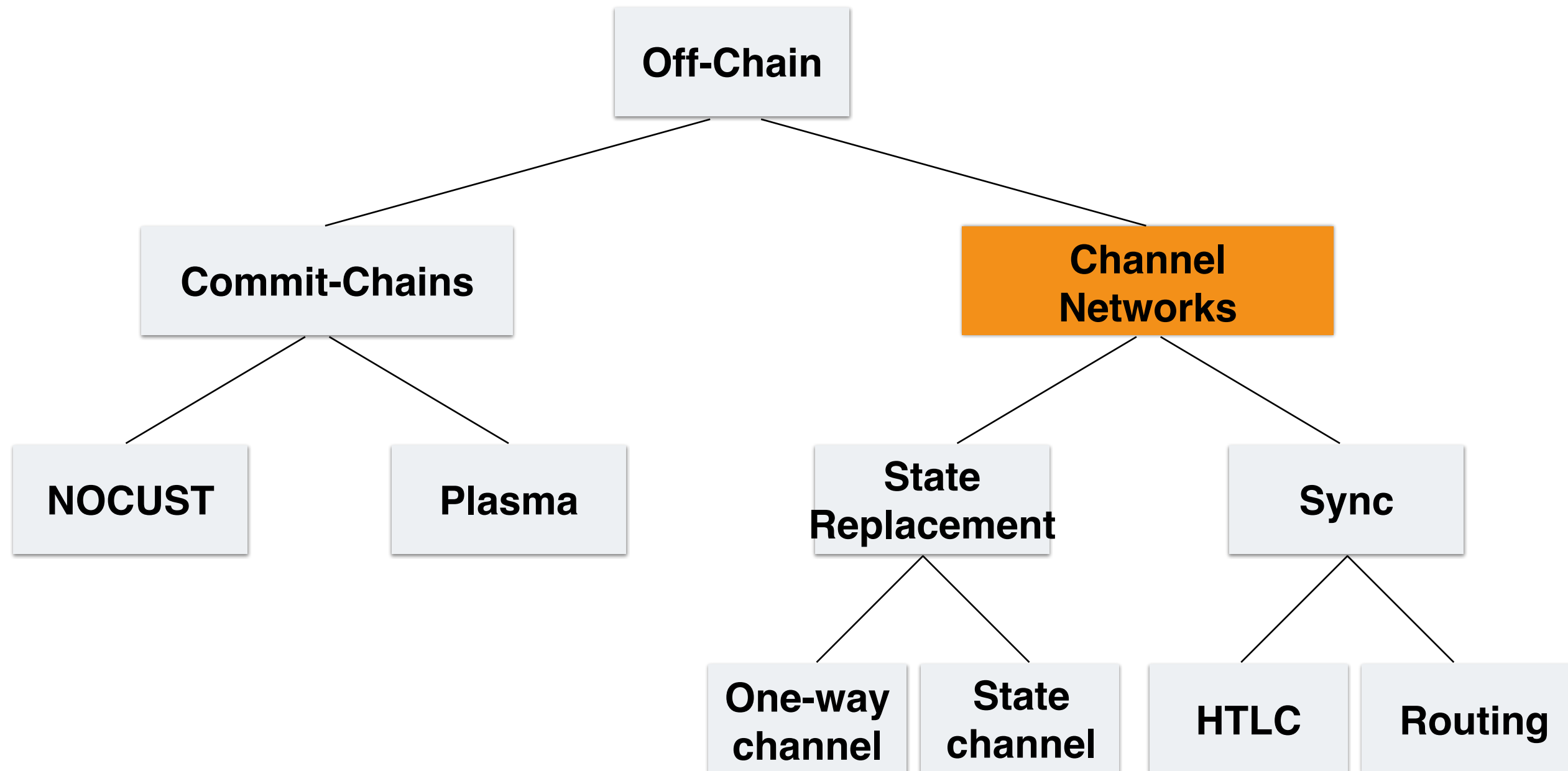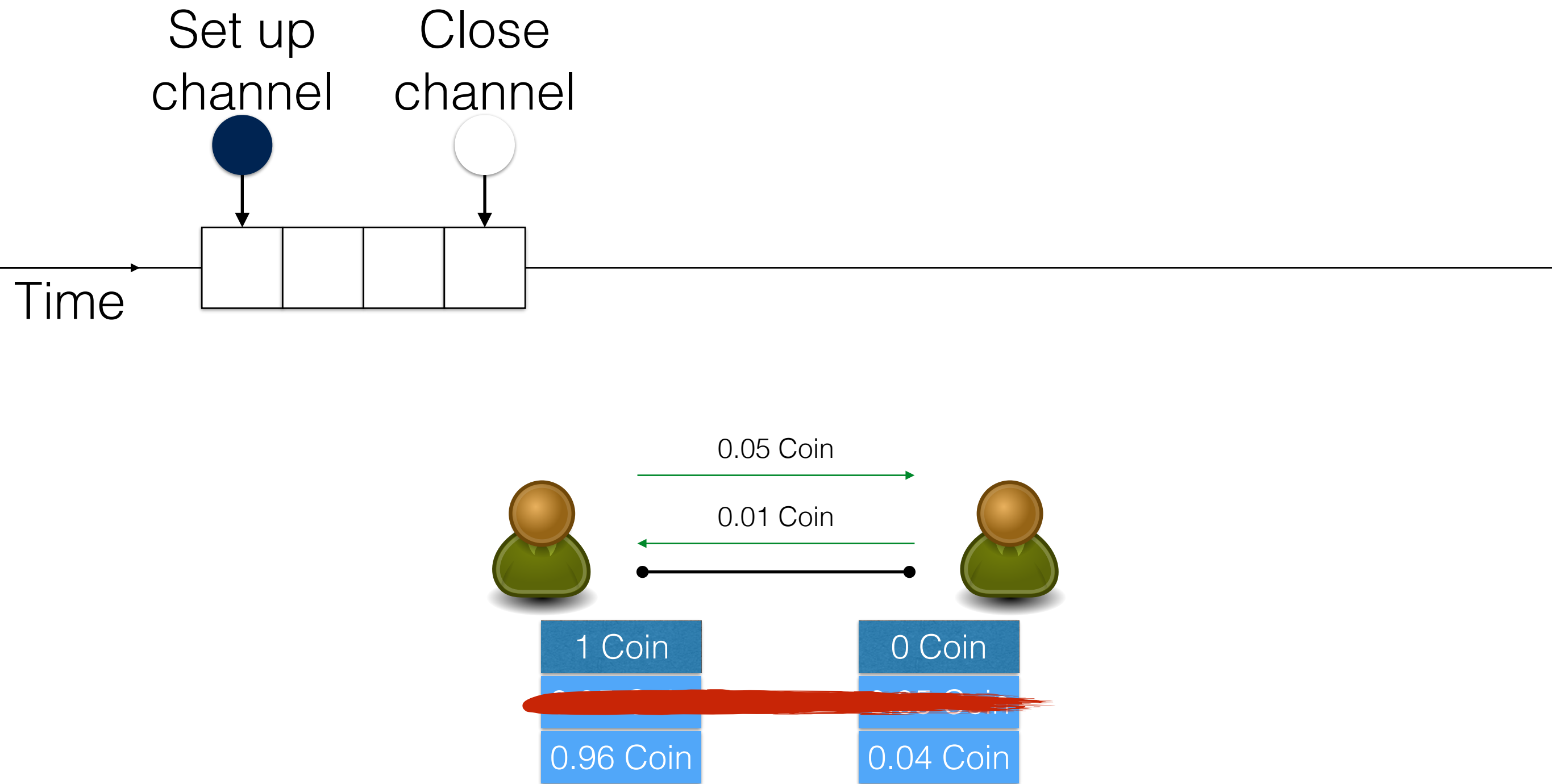Channel Networks

Which Off-Chain Solution?

Payment Channel

Set up channel

Close channel

Time

0.05 Coin

0.01 Coin

1 Coin   0 Coin

0.96 Coin   0.04 Coin

Payment Channel

Parent-Chain Transaction

Off-Chain Transaction

0.5

0.5

0.6

0.4

Funding
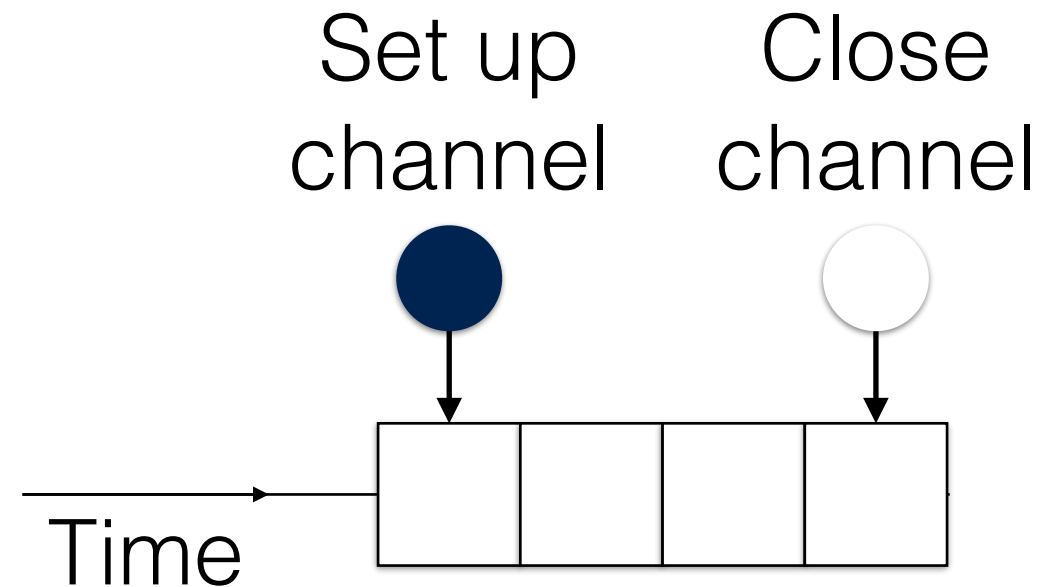
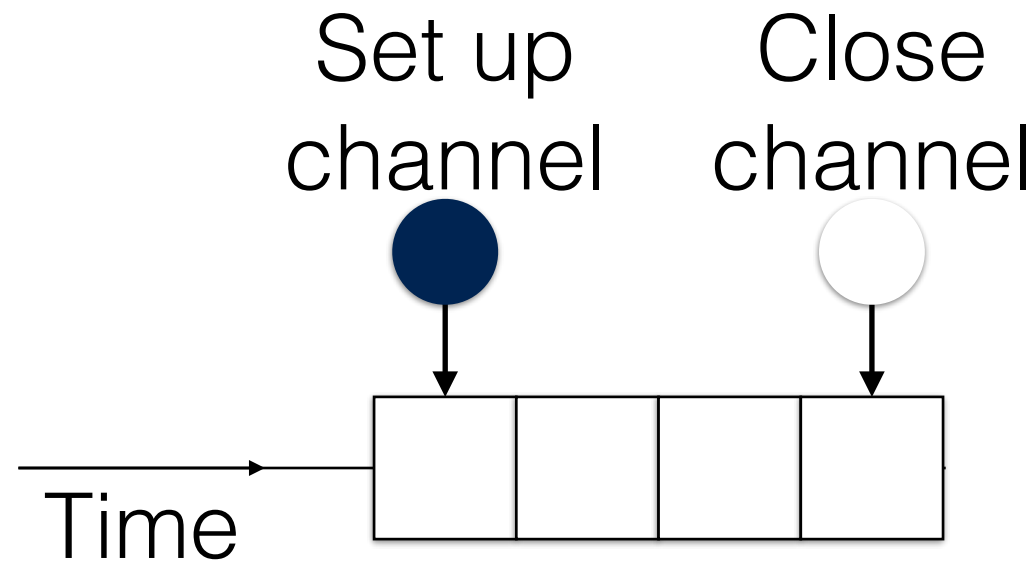Off-Chain Agreement
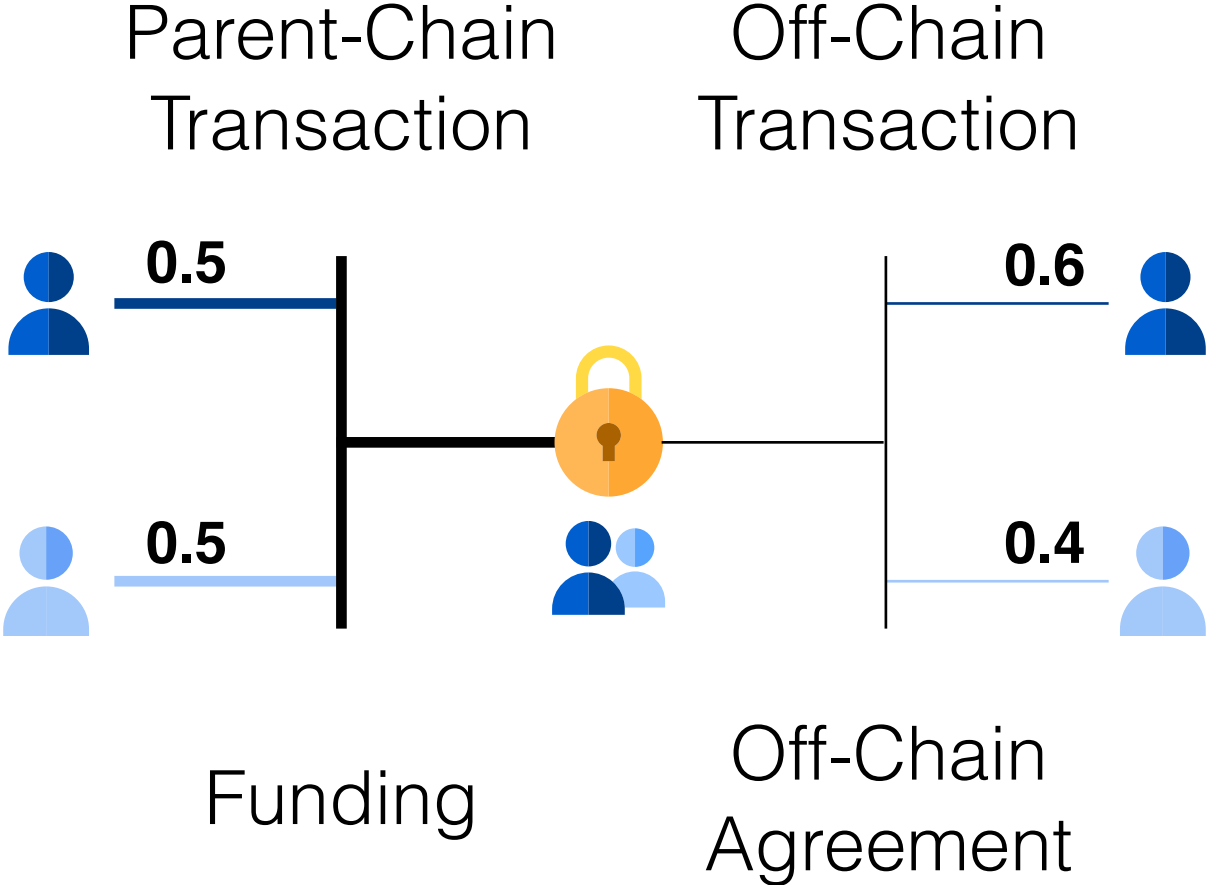
Payment Channel Properties

Set up channel   Close channel

Time

- **Balance Security**:
  Any party can always withdraw the agreed balance on-chain with a dispute.

- **State Progression**:
  Any party can enforce a state transition on-chain to reach a terminal state.

Payment Channel

Set up channel   Close channel

Time

- Unanimous Establishment

- Unanimous Transition (without dispute)

What if the parties do not agree?

Payment Channel - Dispute