

Off – chain payments

Scaling blockchain

A long-exposure photograph of a highway at night, showing vibrant light trails from cars. The trails are primarily red and orange, curving along the road. A bright white light trail is visible on the left side of the road. In the background, there are some road signs and streetlights.

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Why we need off-chain payments?

The VISA logo is displayed in blue and yellow on a red background.

Visa (~25.000 tps)

The PayPal logo is displayed in blue on a green background.

PayPal (~200 tps)

The Bitcoin logo, featuring a yellow circle with a black 'B' and two vertical lines, is followed by the word 'bitcoin' in a bold, black, lowercase font on a yellow background.

Bitcoin (~7 tps)

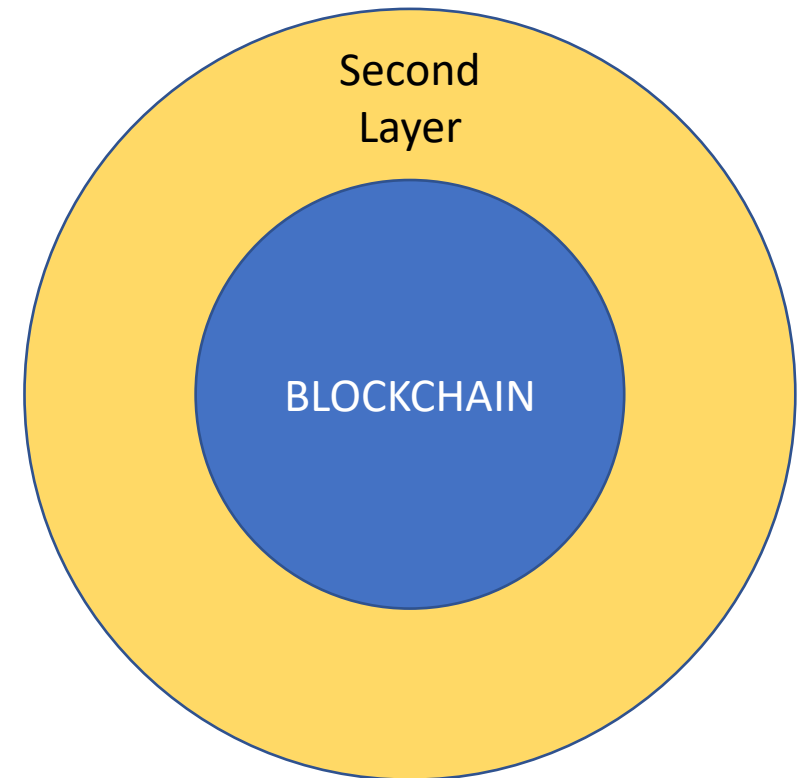
What Bitcoin's need to support the same amount of tps than the other platforms?

- Which is the factor who limits the number of tps in Bitcoin?
- Let's make the math:
 - Average size of a tx in Bitcoin = 300 bytes
 - Size required for 25.000 tx = ~7.2 MB
 - Block size required to support 25.000 tps (with blocks every 10 minutes) = ~4.3 GB
 - Monthly blockchain grow = **~18.1 TB**



Which is the solution?

- Second Layer solutions



A green pencil is shown drawing a green checkmark inside a black square box. The pencil is positioned at the top of the box, and the checkmark is being drawn from the top left towards the bottom right. The pencil is also drawing the top-left corner of the box. There are other black square boxes visible in the background, some of which are empty.

Off-chain payments main advantages

- Low transaction fees
- Almost instant confirmations
- Privacy
- Number of transactions per second



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LUMINO NETWORK



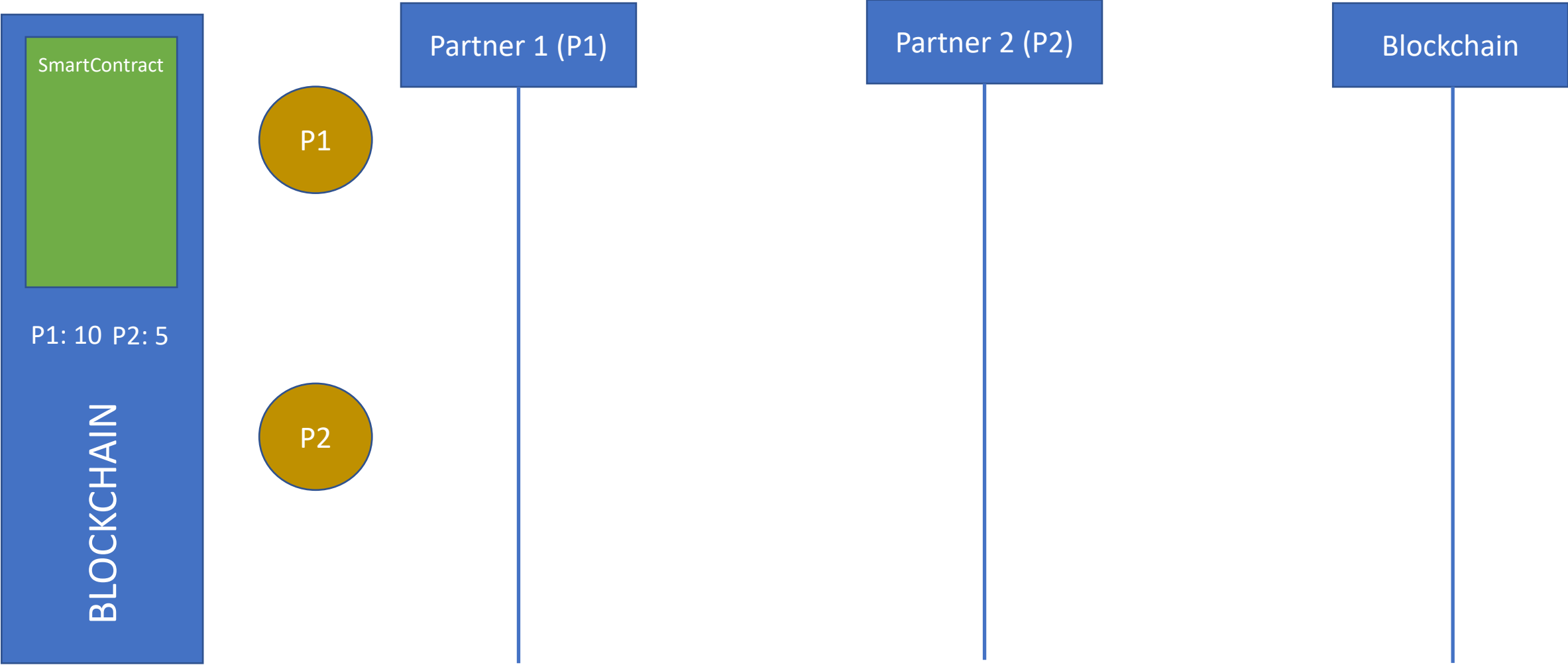
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LUMINO NETWORK

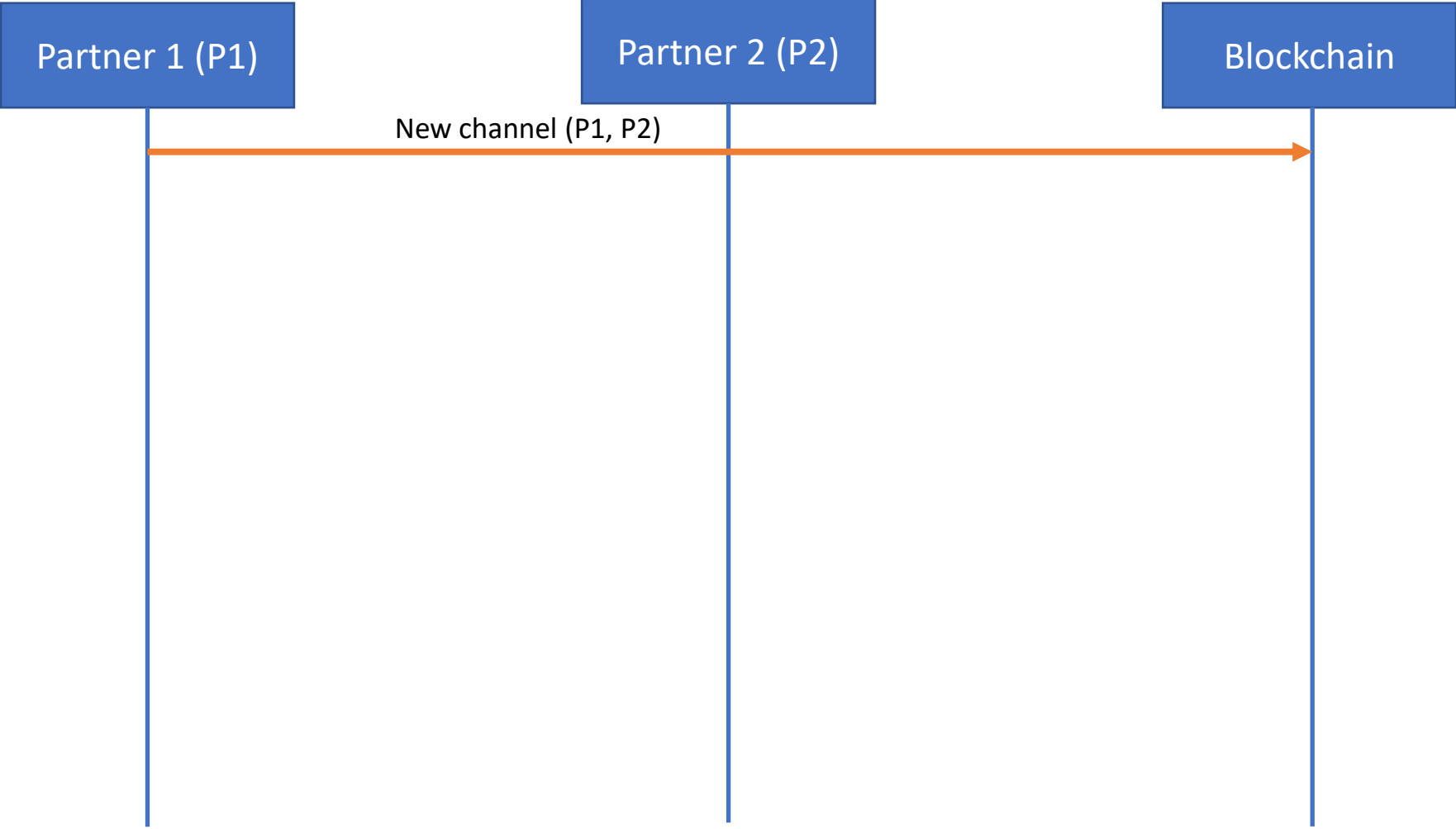
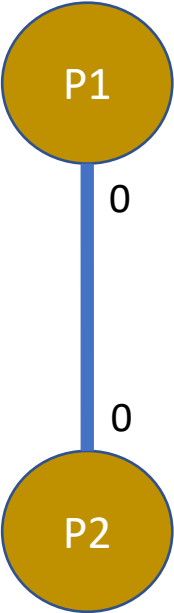
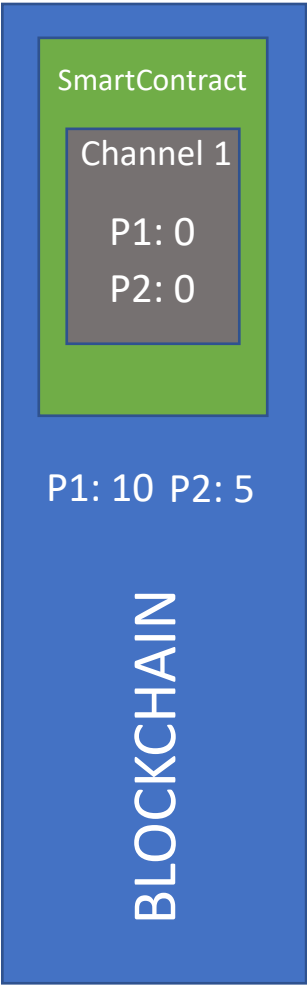
What is RIF Lumino

- RIF Off chain payment solution
- It can create off chain payments channels for any token deployed on RSK platform
- First release May 2019
- First light client release December 2019

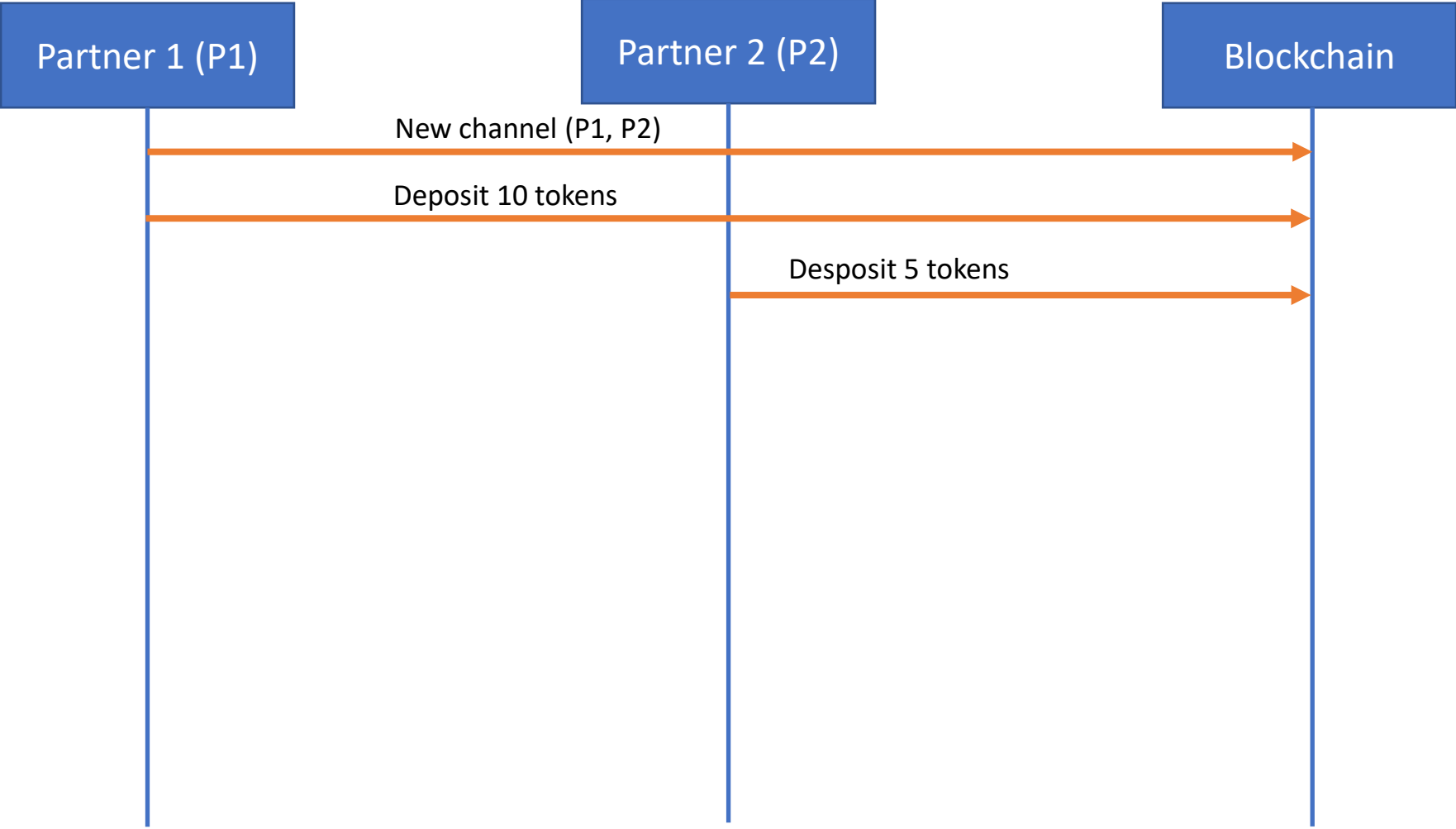
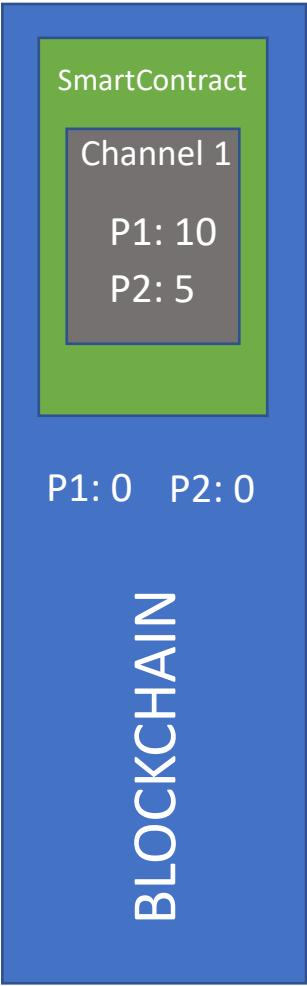
How it Works?



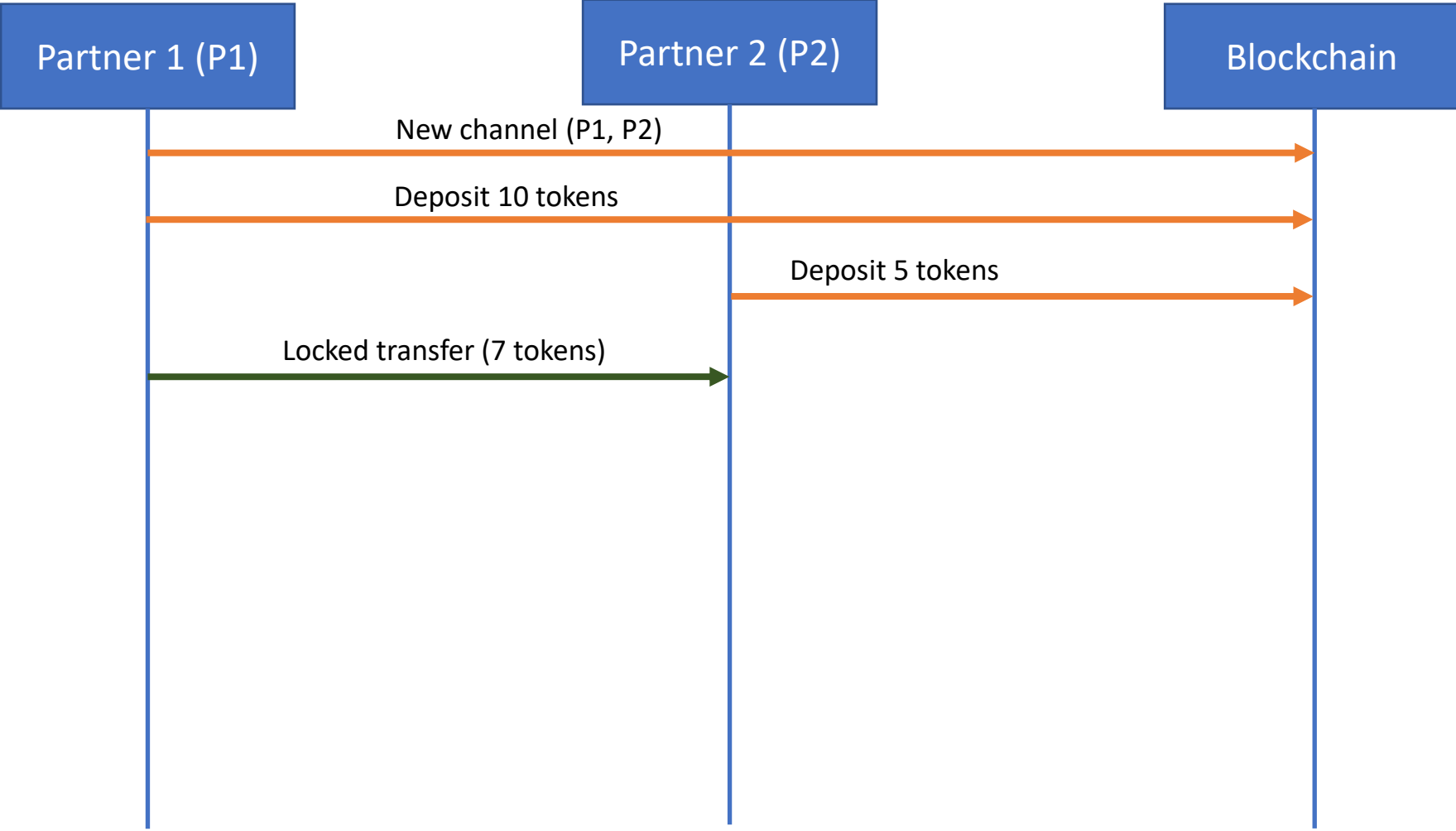
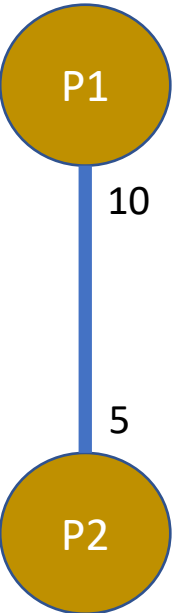
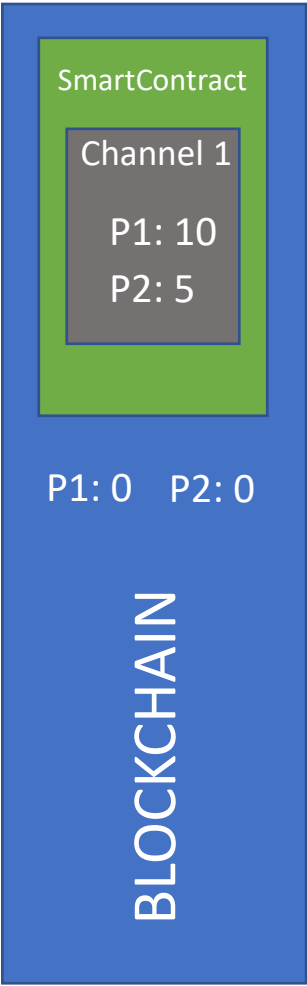
Cómo funciona?



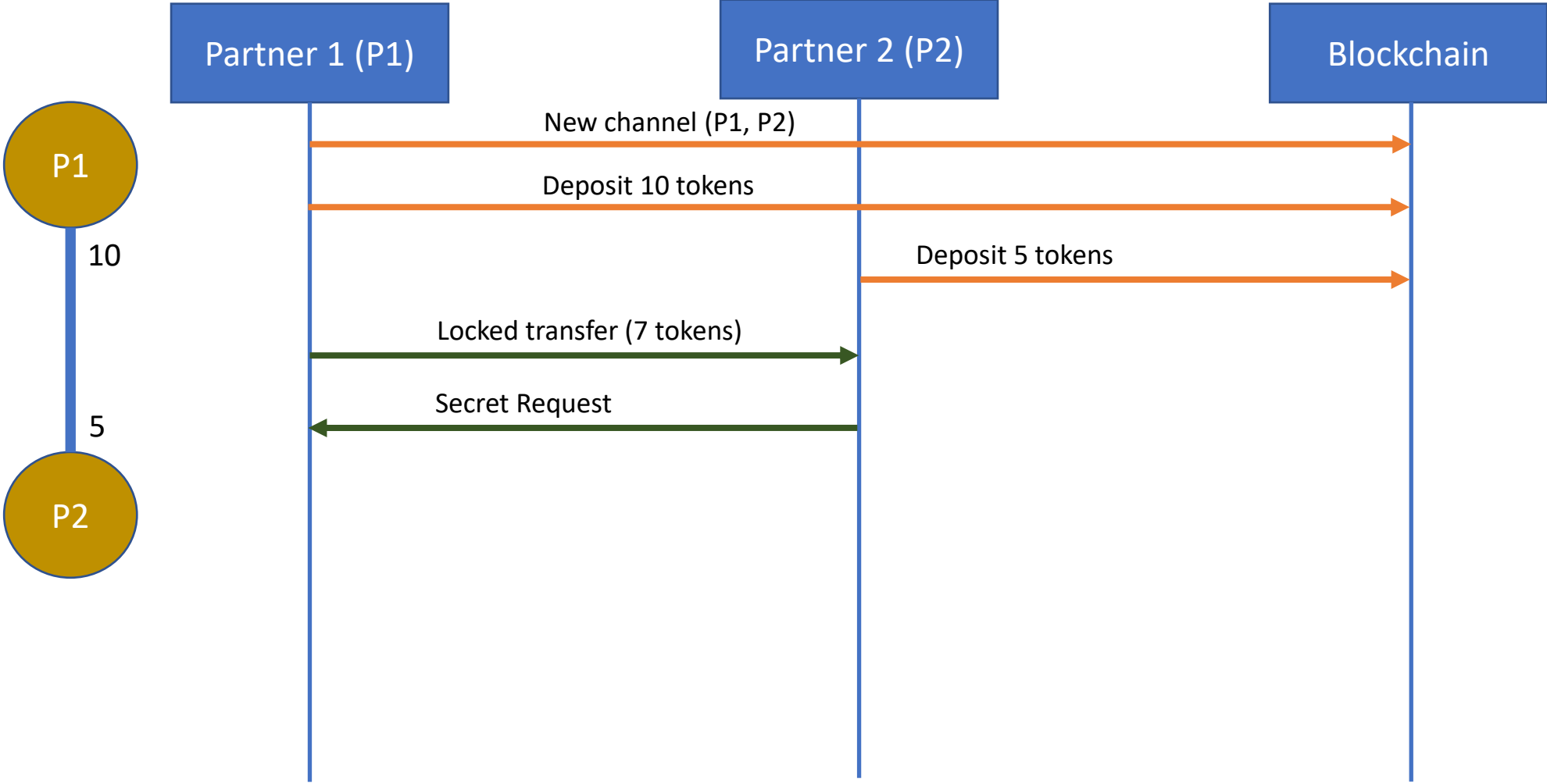
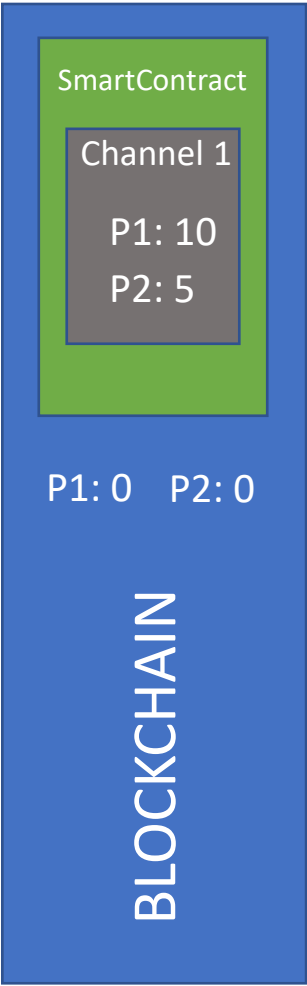
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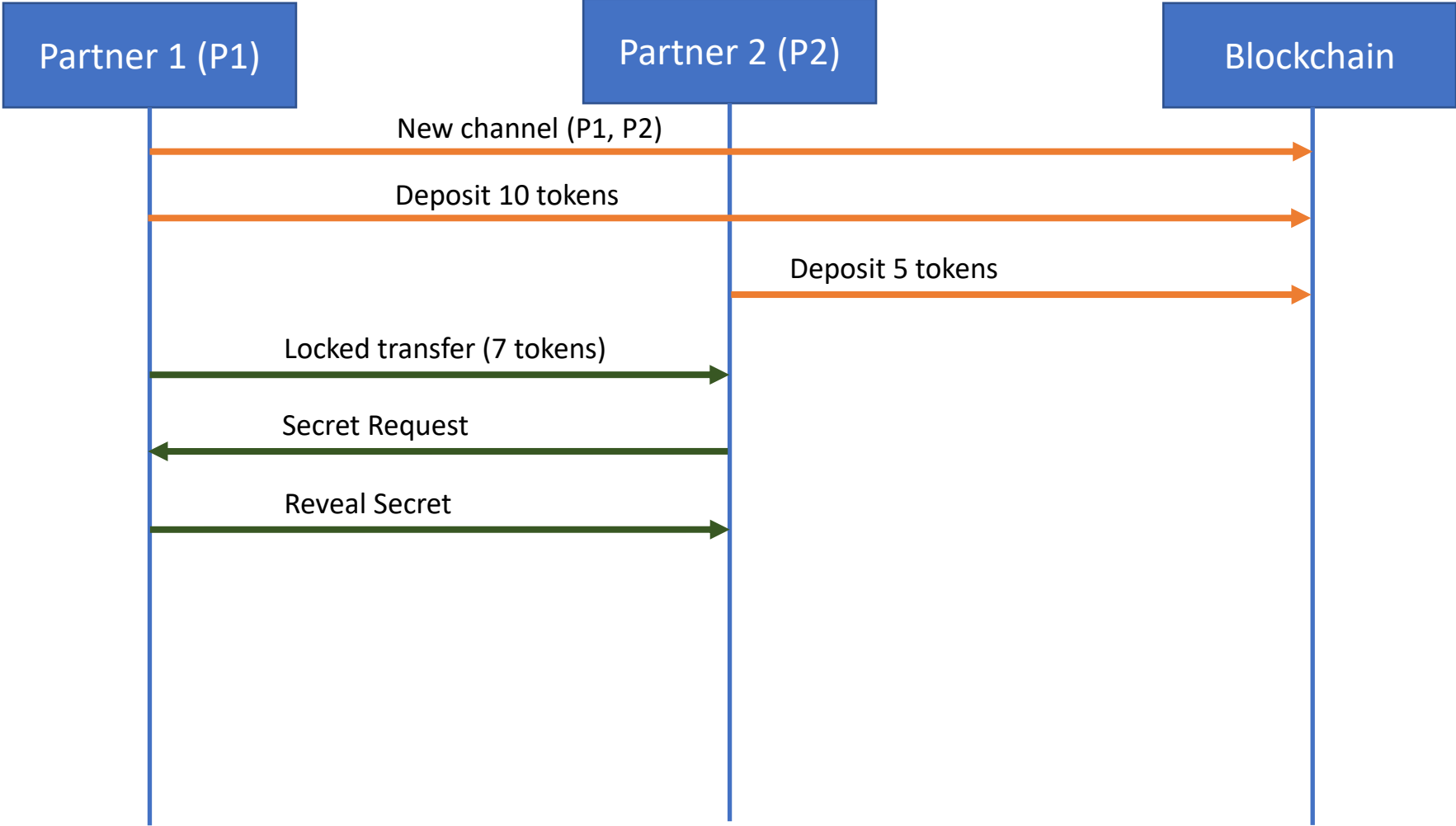
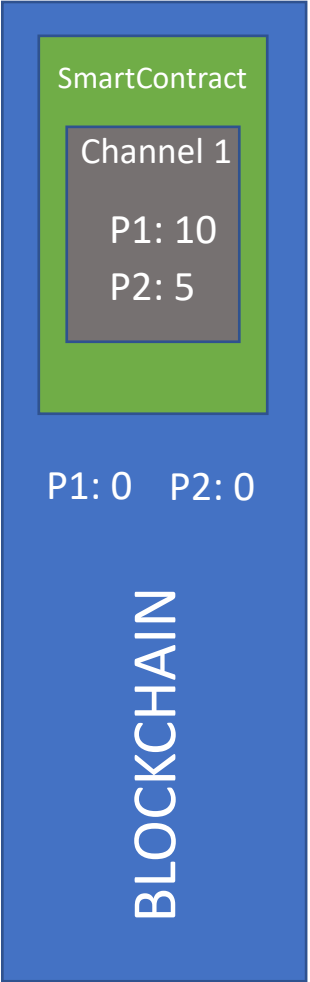
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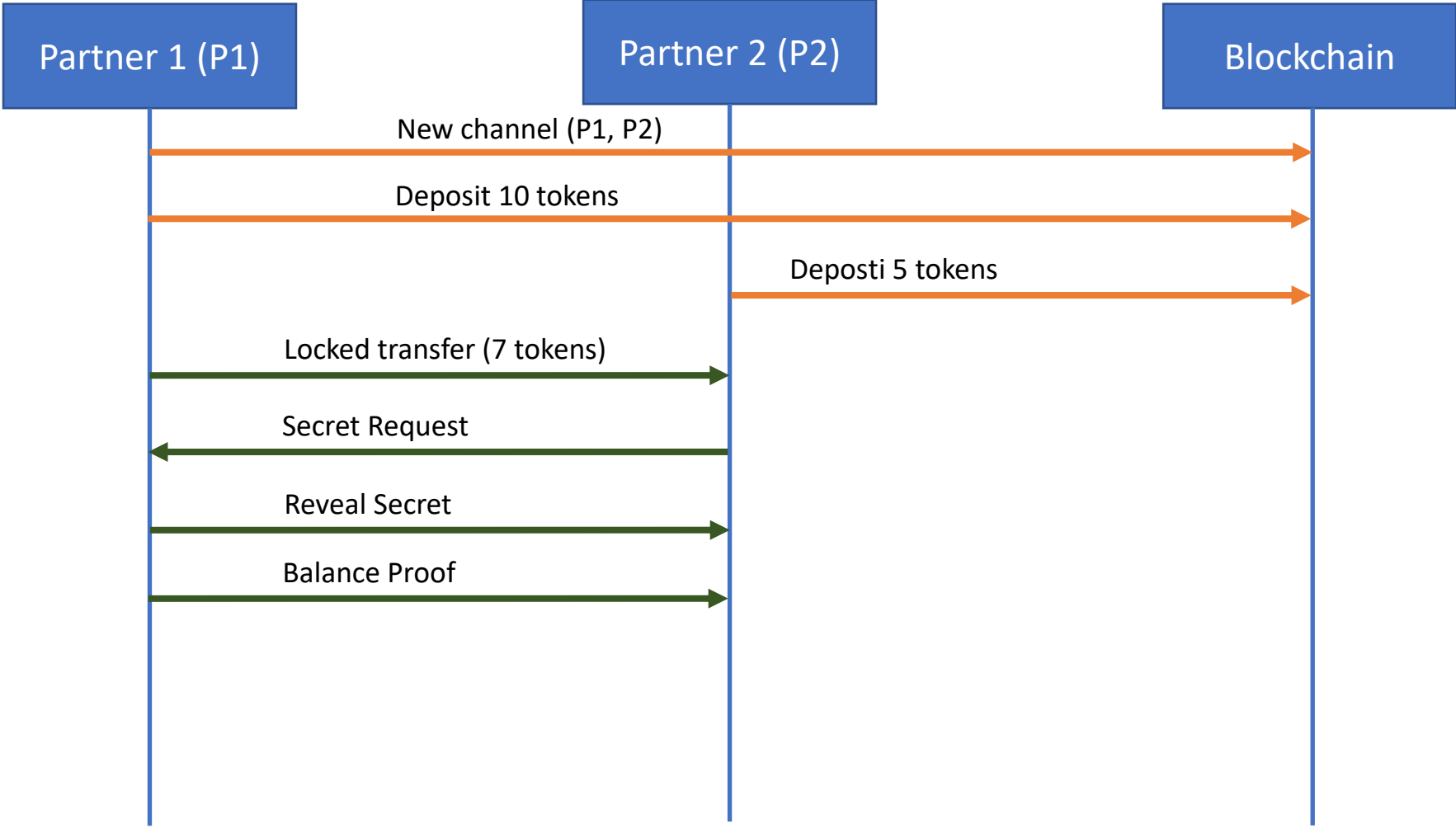
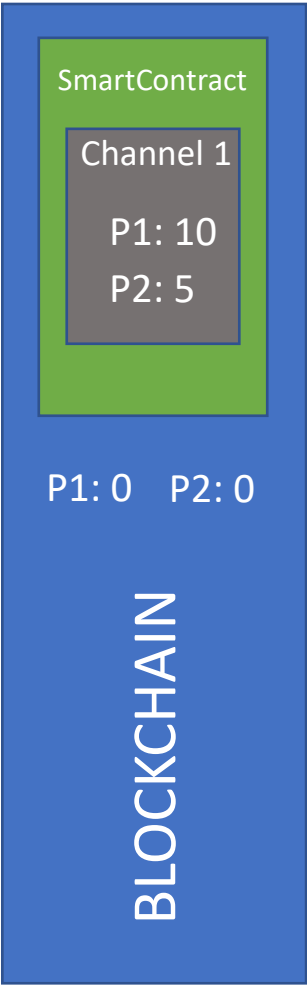
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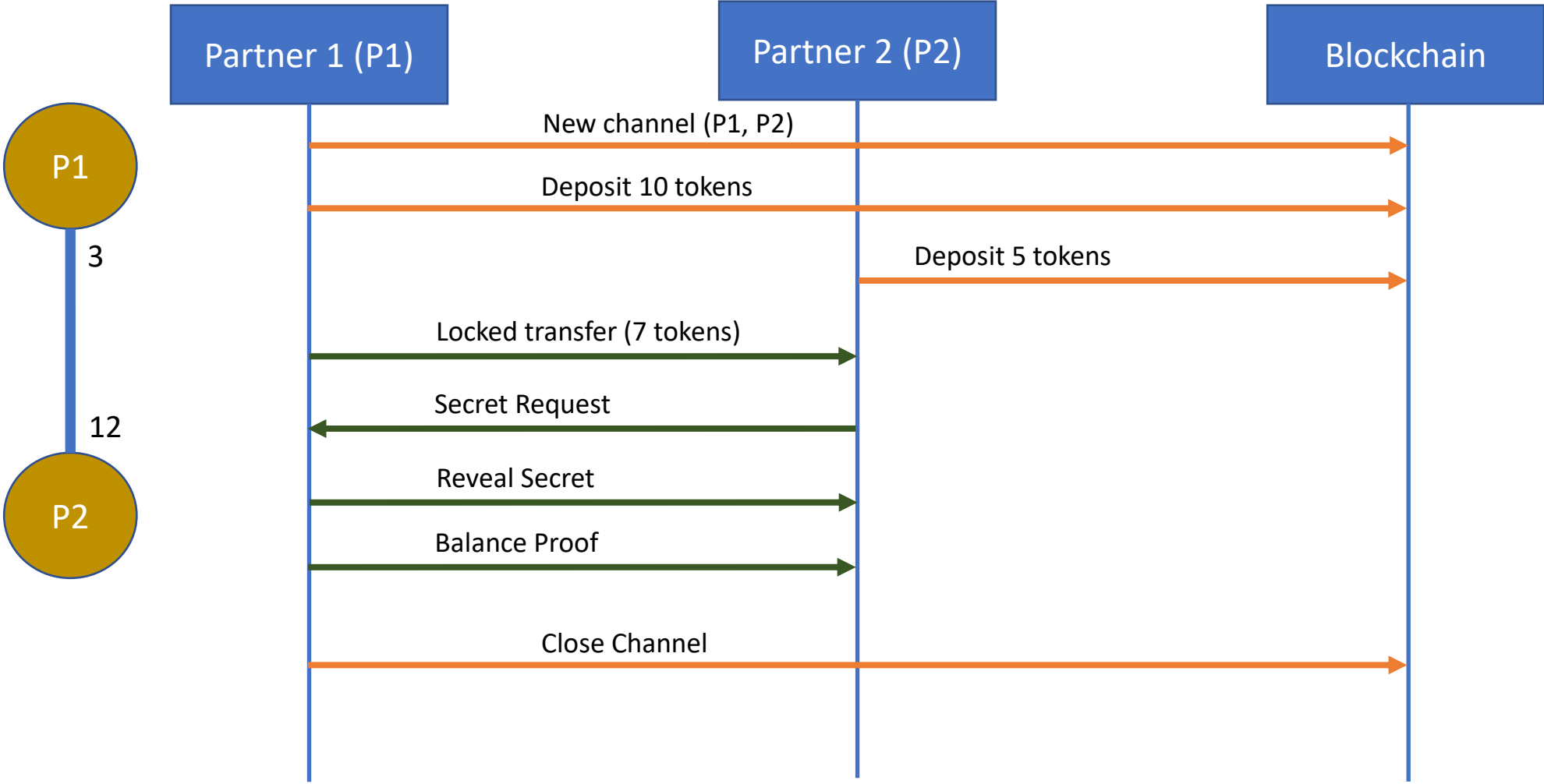
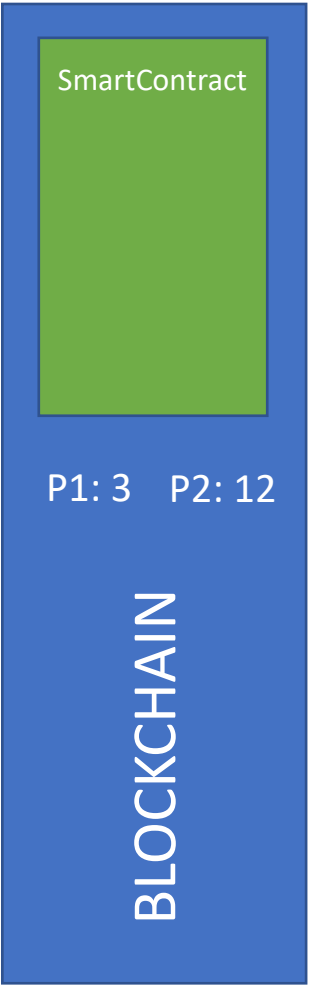
Cómo funciona?




Cómo funciona?



Cómo funciona?





Which are the differences between Lumino and Lightning Network?

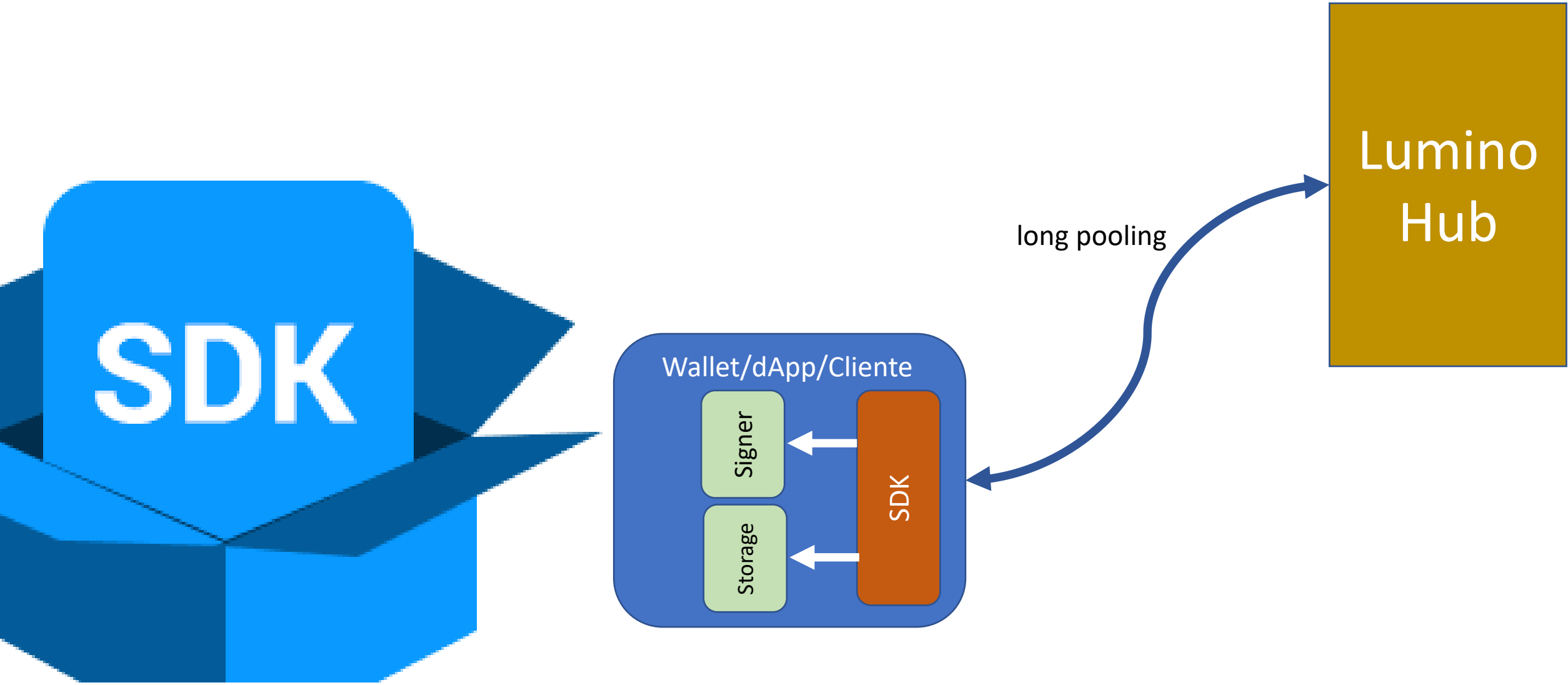
- Supports any ERC-20 compatible token
- Invoicing system Lightning compatible
- Full integrated with RIF Suite
- Possibility to implement complex business rules

Light Client



- Allows to wallets and dApps to connect to the Lumino Network
- Implemented in JavaScript with React Native support
- The private key is always on the client side

Light Client



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