

metronome

How a Chainhop is Different than Other Interoperability Solutions

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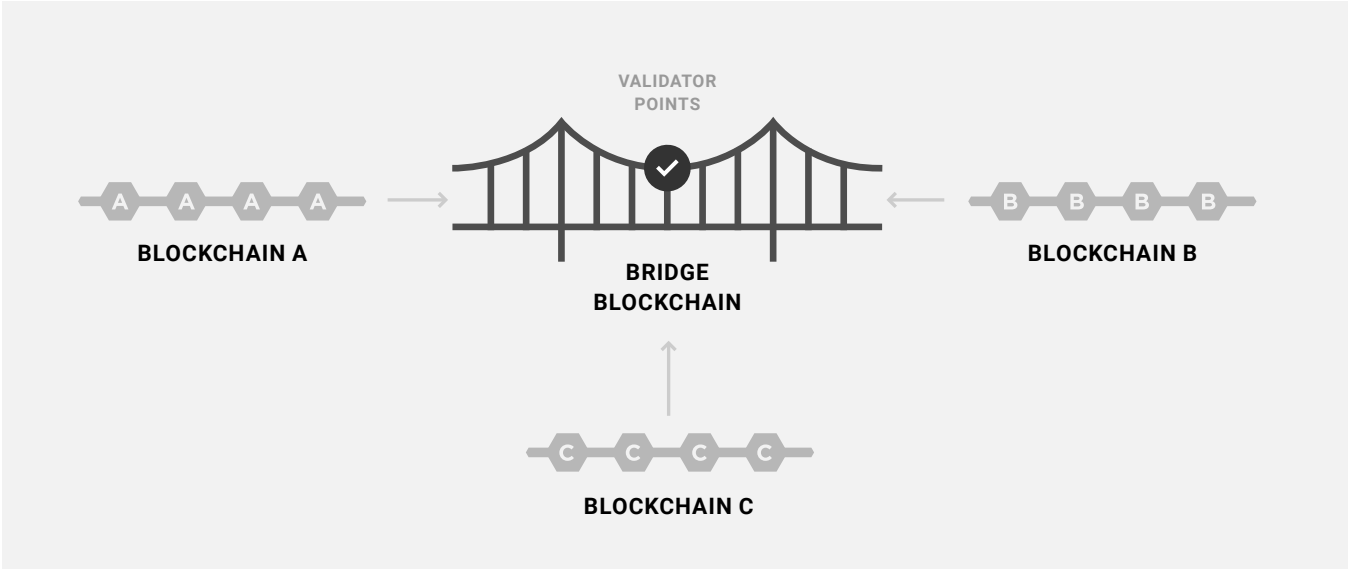
Between smartbridges, atomic swaps, wrappers and chainhops (i.e., the Metronome approach) there are many approaches to on-(and off-)chain interoperability. Any new industry trends toward jargony obscurantism, which in turn leads to confusion and skepticism, so let's try to make a little more sense of it.

Bridges and off-chain validation points

[Smartbridge technology](#) is one solution for blockchains to share *information* with one another. These bridges can also execute payments via smart contracts.

An example: Alice wants to pay Bob but does not have the coin he wishes to receive. Alice does have coins that Charlie wants and Charlie has coins that Bob wants. A smart bridge could be used to have Alice pay Bob through Charlie via multiple blockchains facilitated by another blockchain.

Typically these include a third party to approve the communication between chains, and all chains communicate to each other *through* one chain, not directly.



Wrapped tokens

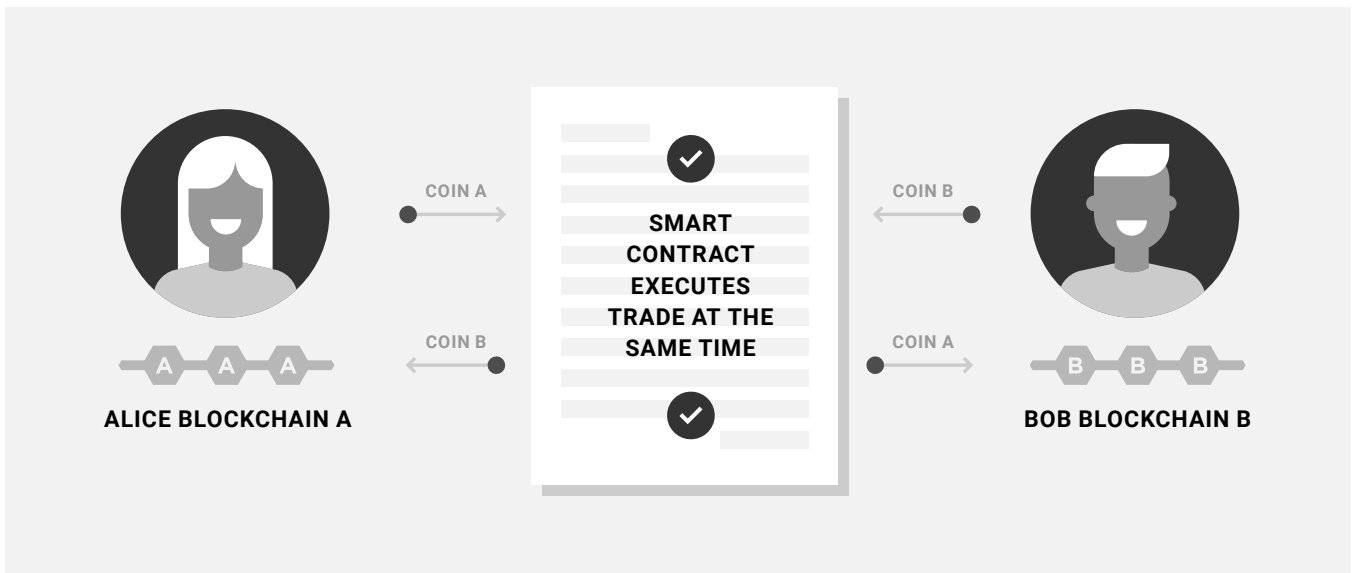
Another way one can simulate having one chain's token on another is to “wrap” that token. The example here would be Bitcoin on Ethereum. One can lock up a certain amount of BTC on an address on the Bitcoin network via a blackholed address (one locking up tokens), issue a one-to-one peg of that token on Ethereum, and then make that token behave as if it were Bitcoin, but on Ethereum.

This is not a true chainhop of the same coin since an intermediary coin is required and the coin wrapped token is still native to the second network – just with a wrapper.



Atomic Swaps

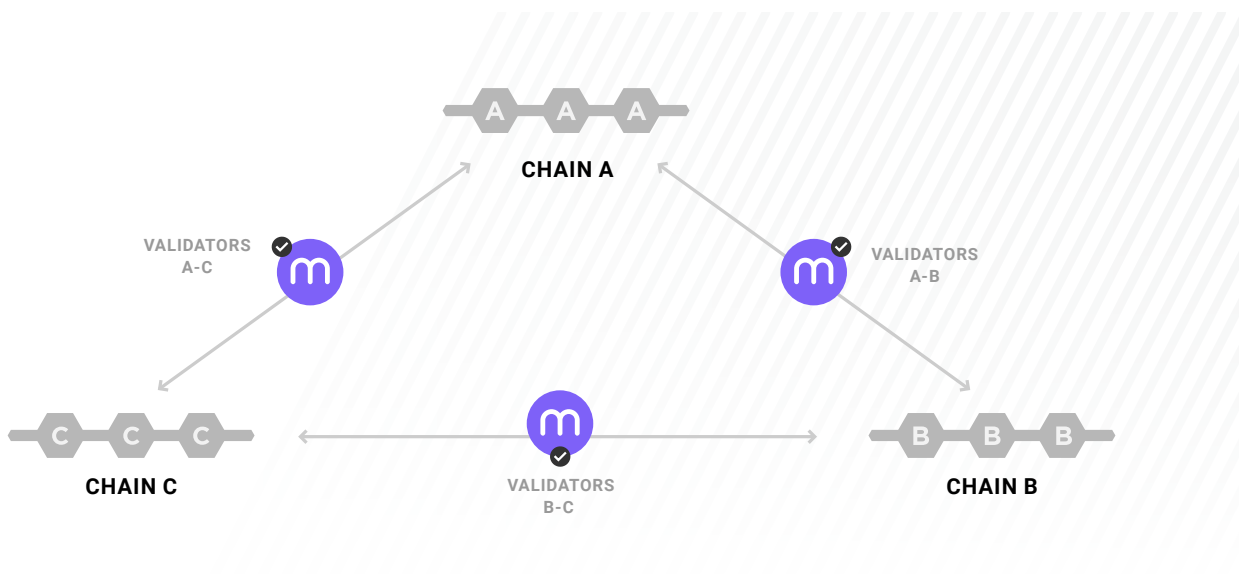
[Atomic swaps](#) are necessary when both parties wish to exchange one crypto for another at a given price, peer-to-peer. These parties may be concerned about their counterpart holding up their end of a deal – especially when it comes to crypto where [the need to avoid mediating disputes](#) was brought up from the very beginning. Smart contracts facilitate atomic swaps by acting as an arbiter for the exchange, behaving as a sort of escrow that ensures that both parties receive their cryptocurrency at the same time. A lot of exciting work is being done here, but this is still different from how Metronome works. (In fact, it is the on-chain interoperability method that is most often confused with Metronome's chainhop capability.)



Chainhop

A [chainhop](#) is the movement of one asset/coin across two or more blockchains. Metronome uses a system of off-chain validators to ensure that cross-chain transactions are valid and do not violate the MET global supply. With time, validators will become increasingly decentralized, eventually moving to a stake-weighted model of validation.

As opposed to the methods described above, a chainhop is *removing* MET from one chain and putting it on a target chain. It is the movement of the *same* coin to a different part of the same ecosystem. In other words, this is a true, direct transfer of MET and not a substitute or placeholder.



A side-by-side comparison demonstrates how a Metronome chainhop satisfies the core goals of portability in Metronome versus other interoperability solutions.

	INFORMATION + MONEY	NO VOLATILITY RISK	SAME TOKEN	DIRECT CHAIN COMMUNICATION	INCREASINGLY DECENTRALIZED
SMART BRIDGE	✓				
WRAPPED TOKENS	✓	✓			
ATOMIC SWAP	✓				
CHAINHOP	✓	✓	✓	✓	✓