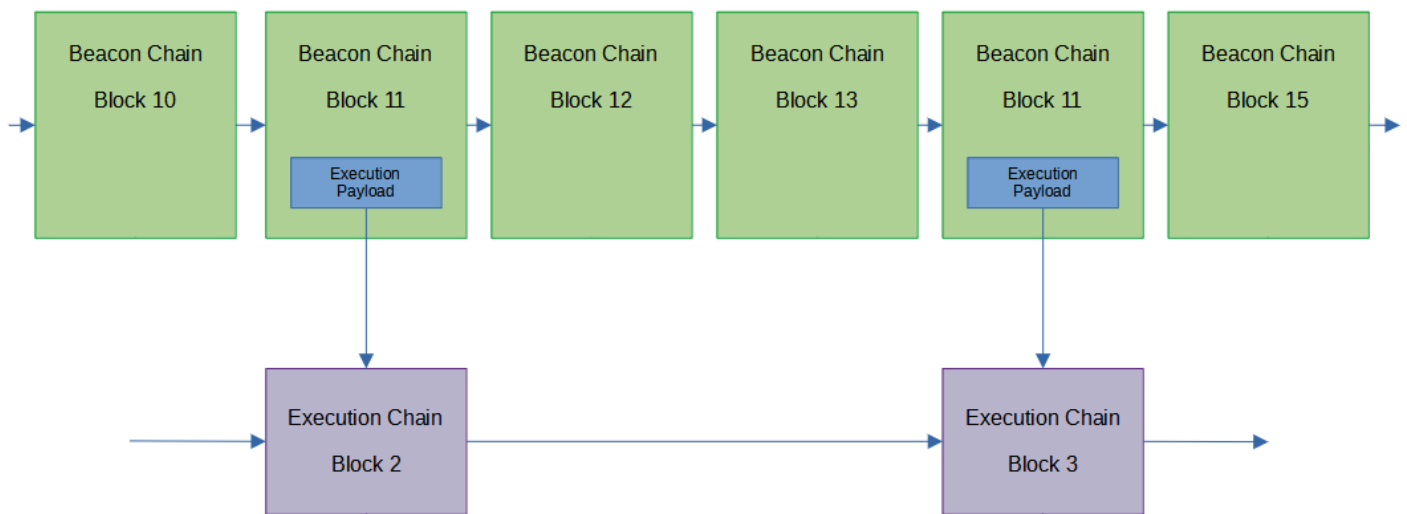


Beacon and Execution Chain

BPX consists of two separate blockchains called Beacon Chain and Execution Chain. Both are responsible for different tasks, have a different block structure and produce blocks at different time intervals, so the peak height of Beacon Chain will be completely different than Execution Chain.

Some Beacon Chain blocks (called transactional blocks) contain the so-called "execution payload", i.e. data that allows local reconstruction of the full execution chain block.



Both blockchains require separate client applications, called Beacon Client and Execution Client respectively.

Synchronization with Execution Chain without synchronization with Beacon Chain is not possible because Execution Chain does not have any built-in consensus algorithm but relies on data received from Beacon Chain.

Synchronization with Beacon Chain without synchronization with Execution Chain is not possible because execution payloads in some beacon blocks must be validated by the execution client.

Such a mechanism naturally forces following both chains by each BPX full node.

Beacon Chain

Beacon Chain manages the Proof of Space and Time consensus. The beacon chain blocks contain proofs of space, VDF outputs, addresses to which the block reward should be paid, and execution payloads that allow you to recreate the full execution block locally.

Execution Chain

Execution Chain is an EVM compatible chain. Execution blocks contains user transactions, smart contracts and logs.

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