# 4. Technology Implementation Of CEP

*CEP's technology is completely based on blockchain and decentralized, and will be implemented in three stages.*


*Phase 1: CEP first selects the most mature Ethereum smart contract for development*

*Phase 2: CEP accesses Polkadot cross-chain technology to connect to other public chains*

*Phase 3: CEP provides a more convenient and easy-to-use client, which is convenient for users to use.*

*Following this technical roadmap, CEP will eventually become completely decentralized, covering all cryptocurrency assets and public chain assets, simple and easy-to-use cryptocurrency infrastructure and access.*

# 4.1 Smart Contract

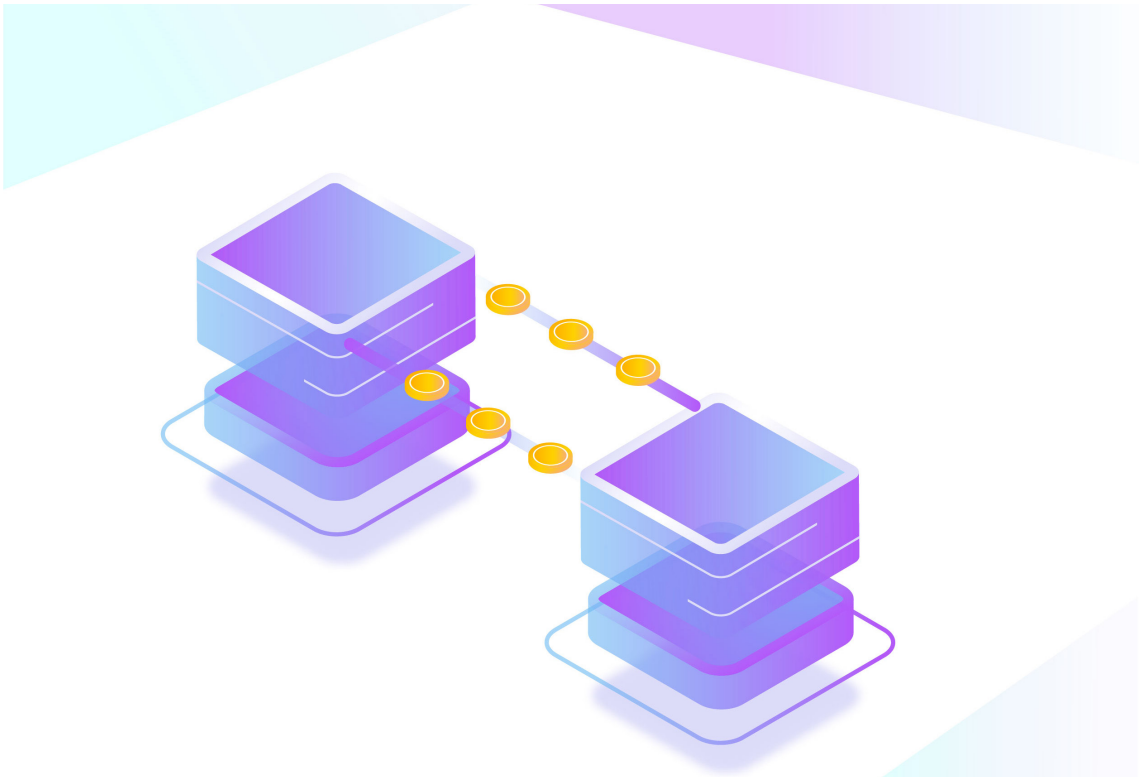
*The term "smart contract" was first proposed by the famous cryptographer Nick Sabo in 1994. It is programmed to accurately and efficiently execute pre-set contract terms. The detailed explanation is: a smart contract is actually a computer protocol that uses a piece of computer instructions to achieve self-verification and automatic execution, and generate verifiable evidence to prove the validity of the contract operation. When the two parties of a smart contract generate an asset transaction on the blockchain, a piece of code is automatically triggered to automatically complete the specific transaction process. This string of computer code is the smart contract.*

*So far, the most stable and widely accepted smart contract platform is Ethereum. The reason why smart contracts can be perfectly applied on Ethereum is because Ethereum provides a nearly Turing complete computing environment on its blockchain. As long as it is a calculation that can be realized by a programming language, Ethereum can support it, which also provides a solid foundation for the application of smart contracts in a wider environment.*

*CEP will first use Ethereum smart contracts for development. The main sectors of CEP, ETF, liquidity mining, and decentralized governance will all be built on Ethereum, because this is the best option under current technical conditions.*

# 4.2 Cross-chain

*CEP will realize cross-chain asset access and circulation based on Polkadot.*



## Polkadot

*Polkadot is the next generation of cross-chain technology and a scalable heterogeneous multi-chain system. This means that there is no longer a single blockchain implementation that focuses on different levels of potential application functions as in the past, Polkadot itself is designed to not provide any inherent functional applications. Polkadot provides a relay-chain, on which a large number of verifiable and globally dependent dynamic data structures can exist. We call these parallel structured blockchains parachains, although they are not required to be a chain.*

*In other words, Polkadot will be designed as a collection of independent chains.*

*Polkadot provides an architecture that is as simple as possible, putting most of the complexity on middleware. This is a deliberate decision, in order to try to reduce the risk of development, so that the necessary software can be developed in a short time, but also have confidence in security and robustness.*

*Polkadot will provide an absolutely solid foundation on which to build a next-generation consensus system, covering all risks from the mature design of the production level to the initial idea. By providing strong guarantees for security, isolation, and communication capabilities, Polkadot can allow parachains to choose their own from a series of characteristics. Indeed, we foresee various experimental and considered blockchain features.*

*The main principles and rules that Polkadot values are:*

*Minimal: Polkadot needs to have as little functionality as possible.*

*Simple: as long as they can push to middleware, put in a parachain, or use optimization methods, so as not to add extra complexity to the basic protocol.*

*General: There is no need to add any requirements, constraints or restrictions to the parachain; Polkadot needs to become the cornerstone of the consensus system development, and try to add the most adaptive extension and optimization to the model.*

*Robust: Polkadot needs to provide a stable base layer. For economic stability, a decentralized approach is needed to reduce the possible problems caused by the attack vector of high rewards.*

## Cross-chain Of CEP

*CEP uses Polkadot's cross-chain communication technology, so that when a transaction is executed in a parachain (according to the logic of that chain), a transaction can be forwarded to the second parachain or relay chain.*

*In order to ensure the smallest implementation complexity, the smallest risk, and the smallest parachain architecture constraints, cross-chain transactions are no different from the current standard external transactions.*

*These transactions will have a source field to identify the identity of the parachain, and an address that can be of any length. The handling fee to be paid for cross-chain transactions is not like the current Bitcoin or Ethereum system, but must be managed through the negotiation logic of the source parachain and the destination parachain.*

*The problem of cross-chain transactions can be solved with a simple queue mechanism. This queue uses Merkle tree to ensure the authenticity of the data. The task of the relay chain is to transfer the transaction from the queue of the source parachain to the queue of the destination parachain. The forwarded transaction will be referenced on the relay chain instead of the transaction of the relay chain itself.*

*In order to prevent one parachain from sending spam transactions to another parachain, it is stipulated that the queue of the target parachain cannot be too large when each transaction is sent after the previous block ends. If the queue is too large after the block is processed, the destination parachain will be regarded as saturated, and transactions will not be routed to it in the next few blocks until the queue drops below the critical value. These*

*queues are managed on the relay chain, allowing the parachains to mutually determine their saturation levels. If the transaction is sent to the stalled target chain, it can report the failure synchronously (because there is no return path, if the second transaction fails for the same reason, it may not send a reply to the source caller. You need to use some other recovery methods).*

*In short, the CEP investment agreement will realize the connection of cross-chain assets. This will fundamentally bring changes to the way and volume of cryptocurrency investment, and it is also a huge advantage of CEP over a single ETF.*

# 4.3 Client

*We have to admit that a very important reason that hinders users and funds from entering the field of cryptocurrency investment or DeFi is that the ease of use of the operating tools is not good, and there are certain requirements for users' technical capabilities. CEP will change this status and create a simpler and easier-to-use client tool based on Metamask. CEP users can participate in cryptocurrency investment in one click with a very low threshold and no technical background knowledge.*