The world's first decentralized multi-protocol cross-chain trading platform
BDEX is a new generation of decentralized multi-mechanism cross-chain exchange that was invested and developed by BCEX Global in early stage. BDEX will apply cross-chain agreements, smart contracts, and matching mechanisms to complete order matching and transactions. At the same time, BDEX uses a variety of cross-chain mechanisms to complete decentralized transactions to meet various needs of users, including decentralized asset exchanges, real-time settlement across exchanges, and inter-industry cross-ledger asset exchanges.
BDEX strives to reach the user experience of centralized exchange in terms of transaction depth, speed, transaction variety, liquidity, transparency, easy operation, etc., and achieves decentralized transactions among traditional exchanges through cross-exchange real-time clearing mechanisms. At the same time, BDEX will jointly establish a decentralized cross-chain industry alliance with great powers in various industries to promote the integration of blockchain and finance, cloud computing, IOT, AI and many other industries to realize the cross-ledger atomic exchange between traditional and blockchain system, and link the blockchain world to the physical world. BDEX will also solve the security and trust problems in the exchange of data value based on the encryption and consensus of data in the blockchain network, and jointly promote the development of human society towards the Internet of Everything.
Cross-exchange real-time settlement

Users’ assets are directly hosted in their own blockchain wallet, greatly reducing the risk of loss of assets due to the fault of exchanges or other reasons. Transaction matching and on-chain clearing through smart contracts not only increase transparency, but also get rid of the central media.

Decentralized asset exchange

By applying decentralized cross-chain interaction, the wallet systems of major exchanges will be connected and shared that there is no need to transfer assets among multiple exchanges, but they can match the transaction depth of other exchanges in one exchange.

Inter-industry cross-ledger asset exchange

Ledgers between traditional centralized system and blockchain system can be conducted with cross-ledger asset exchange in fields like finance, cloud computing, IoT, AI and so on. BDEX will solve the security and trust questions in the exchange of data value based on the encryption algorithm and consensus mechanism in the blockchain network.
BDE (BDEX COIN) will help users and project parties better adapt to the transitions from centralized to decentralized cross-chain of transactions.

BDE has three attributes:

1. Universal Tokens of Global Trading Zone:

BCEX Global will be the first exchange to launch the "BDEX Global Trading Zone" and will be opened with a transfer channel between the Global Trading Zone and BDEX. BDE will serve as the "Universal Tokens of BDEX Global Trading Zone". In the future, more and more exchanges will be launched into the BDEX Global Trading Zone, forming the BDEX decentralized global cross-chain trading network. BCEX Global users who hold BDE can obtain many rights such as transaction fee reduction and dividends in the global trading zone, and project partners’ airdrops.
2. BDEX preferred listing channel
Project parties obtain the qualification of listing on the BDEX trading platform by pledging and destroying a certain amount or proportion of BDE.

3. Original token of BDEX underlying public chain
BDEX underlying public chain adopts multi-layer and multi-chain architecture with integrated relay chains/parallel chains and POS consensus mechanism. BDE will be used as node mining reward or transaction fees.
BDE Repurchase and destroy

Some of the fees generated in the BDEX will be used to periodically repurchase and destroy the BDE circulated in the market. At the same time, BDEX will provide full technical support for the partners to open their own decentralized cross-chain trading platform if they purchase and destroy the BDE.
Smart Contract

BDEX ensures security and uniqueness of asset by verifying the signature of orders through smart contracts and proving the relationship between orders and users. The smart contract on the chain not only processes the user’s verification order, but also records the user’s order on the chain, ensuring that each order can be tracked and queried.
Hashed Timelock Contracts

HTLC enables asset exchange among different blockchain protocols. In the process, the assets of both parties are simultaneously locked and pledged to solve the basic problem of trust between the two parties. The atomicity of transactions is guaranteed by the transfer of the key. The time lock mechanism is introduced to ensure the transaction completed within specified time.
Underlying public chain

The BDEX underlying public chain uses a multi-layered multi-chain architecture with integrated parallel chains and relay chains. The relay mechanism makes it easier to transfer authenticated transactions from one blockchain protocol to another. Meanwhile, relay chains connect all the parallel chains, coordinating the consensus and transaction distributions among parallel chains. The parallel chain retains the right to confirm the validity of transactions and to communicate with each other.
For transactions, there are two trading queues, namely the buy order queue and the sell order queue, which are arranged according to the principle of “price priority and time priority under the same price”. For the newly received sell or buy order, the mechanism will find out the matching buy and sell order in the queue. Because there are a large number of messages and task queues in the matching system, queue congestion control is used between each task module to implement message transfer between modules, so as to better coordinate and process data consistency.
The matching engine is divided into three modules, namely Handle, DynaQuoteUtil and Lock modules.

The Handle module is primarily responsible for the handling of trading queues and the processing of trading status. The insertion, deletion, and update operations of the memory order will be performed by corresponding behaviors of packaged orders. The DynaQuoteUtil module is responsible for the status update of the market, providing the latest matching market to the order queue, and providing dynamic buying and selling analysis to the front end through the websocket. The Lock module controls data consistency when reading data, preventing errors such as memory overflow.
Matching Process
(as shown on the left)

Order structure
The order structure is designed to define the trading range for each transaction order, including the user's signature data. The smart contract processes the placing, withdraw, or changing of orders through users' signatures. Different chains are deployed with corresponding smart contracts. The contract data structure is divided into an order table and a tradable token table. And the public interface is an interface for placing, withdrawing, and submitting matching orders.
<table>
<thead>
<tr>
<th>Month</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>May 2019</td>
<td>The BDEX web version that supports EOS, ETH, and EOS-ETH cross-chain transactions will be released.</td>
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<tr>
<td>June 2019</td>
<td>The inter-exchange real-time clearing settlement alliance and the decentralized cross-chain industry alliance will be established.</td>
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<tr>
<td>July 2019</td>
<td>BDEX mobile version (including IOS and Android) and Windows &amp; IOS desktop version that support to create EOS, ETH wallets will be launched;</td>
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<tr>
<td>August 2019</td>
<td>BTC cross-chain trading, NEO intra-chain trading and cross-chain trading will be launched;</td>
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<tr>
<td>September 2019</td>
<td>BDEX underlying public chain test network will be released;</td>
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<tr>
<td>October 2019</td>
<td>BDEX futures contracts, leveraged trading and other financial products will be launched;</td>
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<tr>
<td>December 2019</td>
<td>BDEX underlying public chain will be officially launched.</td>
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THANK YOU!

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