Whitepaper-HC NET

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1. **Introduction to Conventional Remittances:**

The global financial infrastructure is presently a mess of closed systems. These involve gaps which means these involve high transaction cost and hindrance of movement of money across geo-political boundaries. Thisfriction has curtailed the development in financial services specially to remittance, leaving a grey area in the service to billions of people.

The other challenge is to maintain integrity and compliance to a transaction. To solve these problems, we need financial infrastructure which ensures the integrityof financial transactions. Apparently in the past, we have relied on barriers to entry asper Porter's model, toensure integrity.We trust established financial institutions and do our best to regulatethem. But this exclusivity is in conflict with the goal of organic growth. Growth in financial sector demandsnew and innovative participants, who might possess only modest financial and computingresources.

The need of the hour is to have a worldwide financial network which is open, so that new organizationscan join and extend financial access across all communities. The challenge for sucha network is ensuring participants record transactions correctly. With a low barrierto entry, users won't trust providers to police themselves. With worldwide reach,providers won't all trust a single entity to operate the network. A compelling alternativeis a decentralized system in which participants together ensure integrity byagreeing on the validity of one another's transactions. Such agreement hinges on amechanism for worldwide consensus.

2. **Blockchain Technology**

Companies in financial sectors are exploring and experimenting innovative ways to execute transactions quicker for an enhanced customer service, ensure cost efficiency in its operations, and assure transparency to customers and regulators. With large volumes of data getting generated regularly owing to digitization of records, it becomes important for every organizations to effectively manage the security threats and achieve significant cost efficiencies. This is where Blockchain, with its promises of decentralized ownership, immutability and cryptographic security of data, is catching the attention of the C-suite executives. Multiple use cases are also getting explored across industries as everyone has started realizing the disruptive potential of this technology.

3. **HC NET:**

The challenges in current market scenario specially in disruptive technology can be addressed with HC NET, the blockchain technology platform on which HC Remit, the remittance product operates. There are other products as well which works on HC Remit platform- HC Trade Finance, HC Commerce, HC Market Maker and HCX. The Blockchain network is trusted by Banks, currency exchanges, corporate houses, Fintechs, Global Merchants and payment networks.
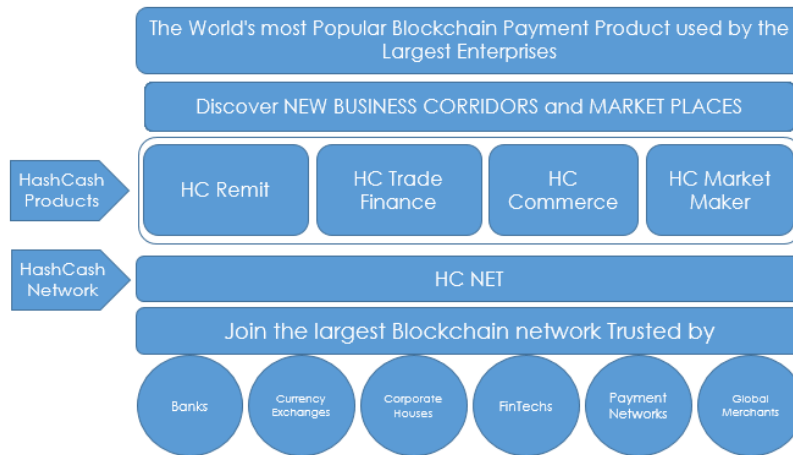
Introspecting into deeper aspects HC NET, the platform works on a decentralized network. A decentralized network consists of peers that can run independently of each other. The power to transmit information is distributed among a network of servers, instead of being driven from one primary source.

This means that the HC network is independent on multiple entities and work on single entity. The idea is to have as many independent servers participate in the network as possible, so that the network will still run successfully even if some servers fail.

The ledger within HC NET records lists of all the balances and transaction in a similar way to that of traditionalledger. A complete copy of the individual ledger is hosted on each server that runs HC NET.

Any entity can run a HC NET server. The servers all together forms a decentralized network, allowing the ledgers to be distributed as much as possible. The servers sync and validate the ledger by consensus mechanism.

The servers communicate and sync with each other to ensure that transactions are valid and get applied successfully to the global ledger.This entire process of coming to consensus on this network occurs approximately every 3-5 seconds, which is a real-time settlement of the assets. The real-time settlement occurs with any of the assets present on the blockchain network. The assets can be the HC Network Native asset-HCX, Fiat Currencies, USD, EUR, Crypto currencies like BTC, ETH etc. and Central Bank issued cryptocurrencies.
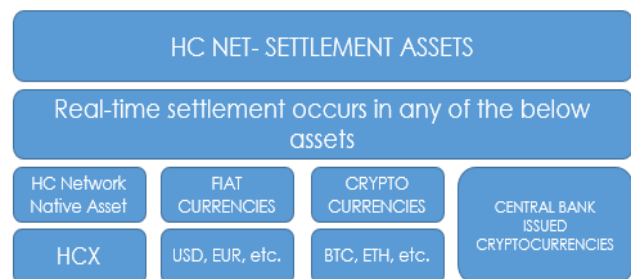
The Anchors play an important role in HC Network. Anchors are simply entities that people trust to hold their deposits and issue credits into the HC Network for those deposits. They form a bridge between different currencies and the HC network. All money transactions in this network occur in the form of credit issued by anchors.

Anchors do two things:

1. They take your deposit and issue the corresponding credit to your account address on the HC network ledger.

2. You can make a withdrawal by bringing them credit they issued.

You have to trust the anchor to honor your deposits and withdrawals of credit it has issued.

Anchors exist in the traditional payment system. For example, to use a wallet, you deposit money in from your bank account, prefunding. The wallet then gives you credit the wallet. You can now send that wallet credit to anyone that trusts the wallet, anyone who trusts the wallet. Someone that received your wallet credit can convert it to fiat money using the wallet by withdrawing it to the bank.

Anchors potrays almost the same functionality there. The difference is, all the wallets and other anchors are operating on the same network so they can all transact with each other now – this makes the system way more powerful. People can now easily send and exchange all these different anchor credits with each other. The HC NET is flexible in terms of operability. It is interoperable with other networks as well. HC NET interoperates with blockchain networks and domestic payment networks. It works with other platforms as well, for instance, Ripple, Stellar, Corda, sawtooth, Fabric etc.

The HC NET ledger is able to store offers that people have made to buy or sell currencies. Offers are public commitments to exchange one type of credit for another at a pre-determined rate. The ledger becomes a global marketplace for offers.
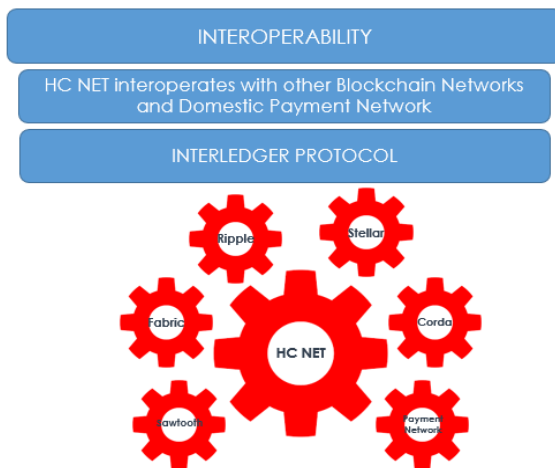
These offers are defined to what is known as orderbook. There is an orderbook for each currency/issuer pair. For instance, if you are wanting to exchange Commerz Bank/EUR for bitstamp/BTC you should look at the particular order book in the ledger to see what people are buying and selling it for.

This allows people to not only buy and sell currencies in way as the authorized dealers work but also to convert currencies seamlessly during transactions.

This network also allows you to send any currency you hold to anyone else in a different currency through the built-in distributed exchange. People can receive any currency through an anchor they added.

Here's a few possible ways the transaction can happen:

a. The network finds an offer on the internal USD/AED exchange for someone wanting to buy AED for USD and automatically makes the exchange between the two parties.

b. Using HCX as an intermediary currency, HC NETwill look for offers on the network asking for USD in exchange for HCX (the native — purely digital — currency). It will simultaneously look for an offer asking for HCX in exchange for AED. The network makes those exchanges and sends beneficiary the credit

c. If there are no explicit relationship between offers to buy and sell, HC NET tries to find offers from the network that will lead a chain of conversions from AED to USD. For example, AED to AUD, AUD to BTC, BTC to XLM, XLM to USD.

3. **Summary:**

The HC NET is the decentralized network which facilitates the transaction on a real time basis with a visibility on the documentation on a real time basis. The distributed ledger technology makes the documents sharing more transparent and secured. The transactions which involved a lot of trusted parties and documents can be transacted blockchain technology.