

Planumex (PEX)

Whitepaper Version 1

November 22nd, 2018

Introduction

Planumex is a decentralized cryptocurrency aimed to be the primary blockchain for interplanetary commerce and use. Created on 11/19/2018 as a hard fork from the NXT Blockchain at block height: 2112952. Forking the NXT chain has allowed Planumex to create a solid foundation we can build upon. NXT already has a lot of features we needed to utilize to obtain our vision of a interplanetary blockchain. One of the most important features built into the Planumex (PEX) Blockchain is the ability to create assets and other tokens on our chain. This will allow for existing communities to build upon the PEX protocols and API. It is also important to understand that most cryptocurrencies and blockchains are not capable of interplanetary transactions due to block generation times and overall lack of wifi or internet technology advancement. Planumex as a solution that will solve these primary problems with an entire community of forward thinking individuals to accomplish such a feat. Our primary goals are to partner with Satellite providers and owners to become one of the first “Satellite Nodes” on the Planumex Blockchain. This will allow us to begin testing and communicating with a node in space. If we are unable to acquire any partnerships that align with our vision we create in house Satellites or Satellite solutions that can be attached to Satellites before launch. Planumex (PEX) will not stop until our vision of an interplanetary cryptocurrency has been achieved.

Want to become a Planumex Partner? Email: hello@planumex.com

Current Problems Facing Interplanetary Transactions

One of the primary problems current cryptocurrencies have that are a PoW model is transaction and block time. If you are sending a transaction from space when you are synced to the chain at say block 12893 and initiate that transfer depending on block size and confirmations of your transaction may not reach another node in time before the next block generation. Meaning that your btc will be returned and the transaction will never make it into that block.

Profitability mining in space: For example as interplanetary travel become more mainstream thanks to Elon Musk and other great inventors of our time. There will be a surge of space mining, due to lower temperatures, and large consumption of solar energy to be acquired in space. However due to the above referenced problem, mining in space again will not produce any blocks into the chain because of an enormous amount of latency and lag. Thus any miners in space will be at a significant disadvantage and will be almost useless.

Another important point is the utility that each of these cryptocurrency has created. There is not one cryptocurrency that is center around an interplanetary consensus system that allows for governance across potentially the entire universe. Majority of these chains at this large of a scale would require more than 10 million gigabytes of data in just a few years. For an interplanetary chain to really work it needs to be lean and have not only a small energy footprint but also an extremely small data footprint as well.

Solutions for an Interplanetary Blockchain

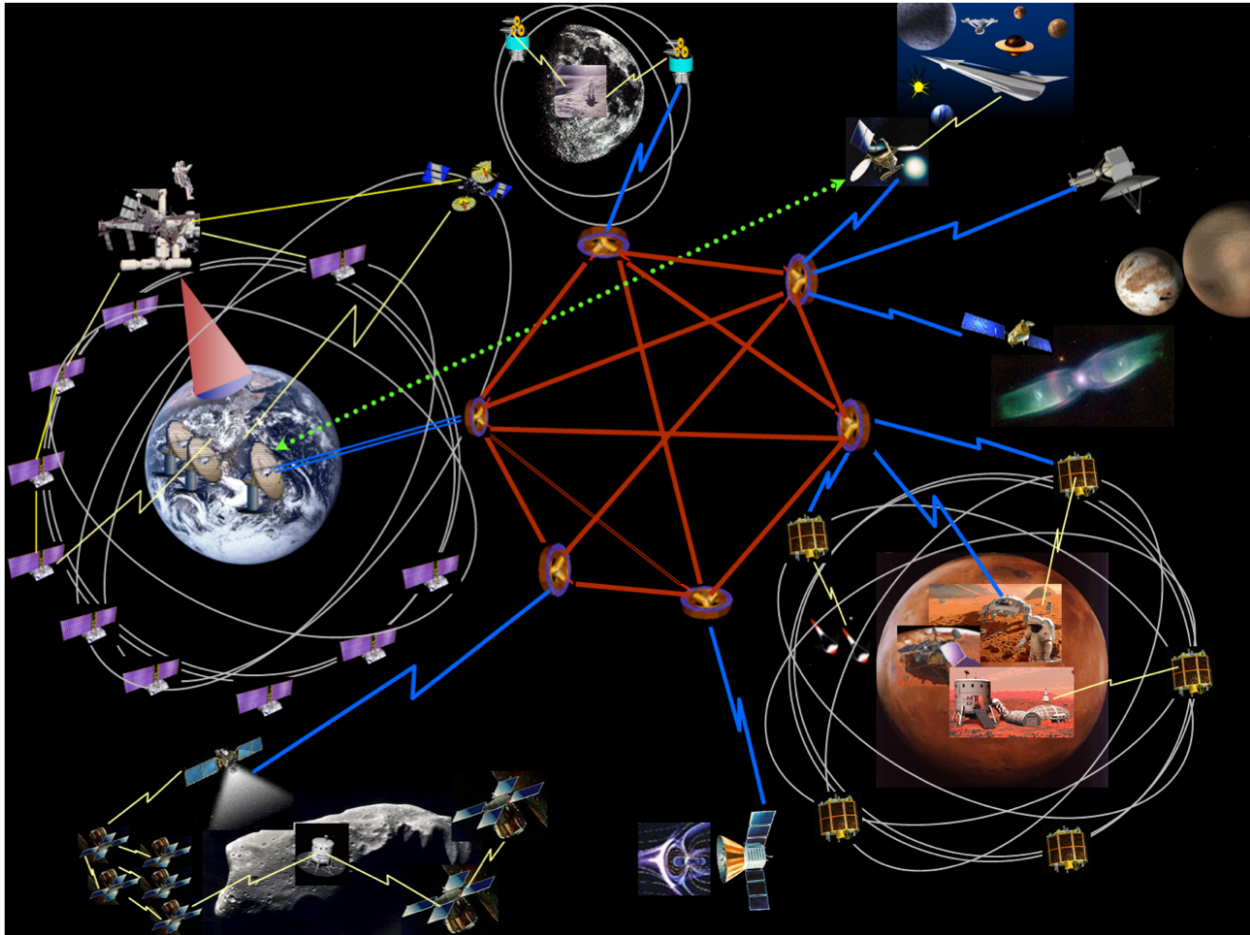
Creating the Planumex (PEX) Blockchain has allowed for us to edit and change certain settings within the primary core of the chain. Planumex is a Proof of Stake (PoS) cryptocurrency that relays on communication between nodes to confirm blocks, transactions, voting, and other features within the Planumex Blockchain. The PEX chain uses a unique method to update transactions within blocks in case of a delay or longer than usual transaction. NOTE this does not allow for an account to double spend as each node has public key balances updated with every block. Which in turn means that it knows if account XXX has already sent PEX from a previous block height and will decline the transaction.

The Planumex Blockchain does not use any mining algorithms. However, using a Proof of Stake consensus model that rewards those that are forging on a public-facing node. This in turn reduces the need for large amounts of energy and “mining farms” to produce transactions or block rewards for those transactions.

The primary utility of the Planumex (PEX) blockchain is to allow for interplanetary transactions or commerce. We have designed our blockchain in a way that would allow for easy connection and storage of data across vast amounts of space. Each block is a total of only a few gigabytes and will slowly grow to 1mb as more transactions are conducted. Our goal is to also have a longer block time to allow for more confirmation to be included in each block. Transaction confirmations are separate from block confirmations. Each transaction will receive a confirmation that it has been received or sent and a final block confirmation to include within the chain.

How Satellite Nodes Communicate

The below diagram has been provided by NASA and shows a great example on how each of these Satellite Nodes will communicate with each other via IP to IP or Peer to Peer.



Source: http://blogs.discovermagazine.com/d-brief/2018/07/23/nasa-interplanetary-internet-earth-mars/#.W_eLLWhKiUk

As you can see from the above diagram the nodes connected with red lines are acting as the primary service nodes on the Planumex Blockchain, these nodes then relay the chain to other nearby nodes on various planets or within space itself.

Planumex (PEX) Coin Information

Planumex is a Proof of Stake cryptocurrency below is the technical information regarding the coin including total supply, circulating supply, ports, and more.

PEX Specifications

- PEX – Cryptocurrency with proof-of-stake (POS) forging
- Total Supply: 1,000,000,000 PEX
- Circulating Supply: 300,000,000 PEX
- Each PEX is divisible to 10^8 NQT (8 decimal places)
- Hash Algorithm: SHA-256
- Encryption Algorithm: Curve25519
- Block speed: 1 Minute
- Transactions per block: 256
- Max attachment size: 42K
- POS difficulty is recalculated every two block
- POS reward: only transaction fees

PEX Port Numbers

- API Port: 1358
- Primary Port: 1756
- Testnet Port: 9354

The port numbers are important to us and resemble a meaning. For example the motion to enter 1358 is similar to a launch arrow or to go. The API port is a clockwise forward moving motion.

The testnet is a way to go back in time or reverse.

Public Facing Nodes (Users encouraged to create more & earn)

- 13.52.72.247
- 54.176.44.212

How to Create a PEX Wallet

Creating a Planumex (PEX) Wallet is fast and easy to do. At the time of writing this the preferred method is to do the following:

You can also watch this informative walkthrough video on installing the Planumex Wallet.

<https://www.youtube.com/watch?v=UyJzN4TiQ4Q>

First you will want to clone or download the Planumex Blockchain here:

<https://github.com/Planumex/Planumex-Blockchain>

Download and install the following required programs to connect:

- Java JDK 8:

<https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

- Java JRE 8:

<https://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

- Nodejs LTS: <https://nodejs.org/en/>

Launch the Planumex Wallet

After you have downloaded and installed the required prerequisites, continue by downloading this GitHub repo to your desktop or computer. You can also clone or fork this project as well.

Navigate to the downloaded and extracted folder called

Planumed-Blockchain-Master:

- Windows: Open the run.bat file and connect to the Planumex Blockchain
- Ubuntu/Debian: Open terminal in folder and run `sh ./run.sh`
- MAC: Open terminal in folder and run `sh ./run.sh`

Next you will be able to login or create a new wallet account. You will be presented with the desktop wallet if running on windows or you can also view in your favorite browser by visiting: <http://localhost:1358/index.html>

Want to help us develop the Planumex (PEX) Blockchain further? Want to partner with Planumex? Have questions regarding our vision? Send us an email with your comments or questions to: hello@planumex.com