
Blockpool
Blockchain Uncomplicated
www.blockpool.io
BPL Sidechains

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BACKGROUND

COMPANY

BLOCKPOOL LTD

Blockpool Ltd. was formed in 2016-Oct in London, England to address the need for innovative blockchain solutions to common business challenges.

Blockpool Ltd. has since maintained a strong focus upon building strategic relationships in key sectors. Notable among these is the partnership with OpSec Security, whose strong connections in the provenance and supply-chain markets has presented opportunities for collaboration that enhance the offering of both companies.

BLOCKCHAIN

BPL BLOCKCHAIN

BPL is Blockpool Ltd.'s flagship blockchain. Based on the Ark project, BPL utilizes a Delegated Proof of Stake (DPoS) consensus mechanism to ensure integrity and security. BPL relies on a pool of 201 delegates to secure the network, add blocks to the ledger and to create new tokens.

Delegates are selected by the community through a voting mechanism in which individuals with a stake in the chain's stability choose which delegates are used to determine consensus and are eligible to receive rewards for processing transactions on the chain.

BPL CORE BLOCKCHAIN

In preparation for sidechain functionality, the BPL blockchain was upgraded to BPL Core in August of 2019. Based on Ark v2, the new BPL Core is state of the art. in addition to increased speed, stability and security the new chain features a modular architecture that enables a great deal of flexibility in terms of functionality and feature development.

This modular architecture supports the next stage in the development of BPL Core and enables development of sidechain functionality.

BPL SIDECHAINS

Launching a new blockchain project can be prohibitively difficult and costly in the saturated and highly competitive blockchain space. New projects face nearly overwhelming challenges to gain a foothold and establish themselves among the ever-expanding array of blockchain and cryptocurrency projects competing for recognition. For many projects, the functional value of blockchain is the most important aspect and true value of the technology, while the cryptocurrency element only adds risk to the project's success.

BPL Sidechains are a true innovation in that expand on the classical definition of the word "sidechain" to bring a new level of accessibility to blockchain technology. BPL Sidechains allow project teams to focus on their unique use-cases by eliminating nearly all complexity around software, hardware and currency that has historically been involved in launching a new blockchain project.

With BPL Sidechains, it is possible to have a functional distributed ledger up and running in a fully decentralized network within hours or days without the need for an ICO & the associated marketing campaign, development & configuration of the codebase, or network setup. New projects can now start with a proven technology running on an established decentralized network allowing them to focus on the unique value that their chain provides, whether this value is specific to the company or to broader markets.

This innovation to blockchain technology is made possible by leveraging the established BPL Core network to process secondary chains in parallel with the BPL Core network.

TECHNOLOGY

OVERVIEW

Sidechain forging is done through a light-weight sidechain client that when enabled, runs in memory on the BPL Core node. This sidechain client allows BPL Core delegates to forge for a second chain in parallel with BPL Core without consuming significant hardware resources above those required by the Core node itself. The sidechain client receives configuration from the sidechain plugin allowing it to process the sidechain using the same code and similar DPoS algorithm as BPL Core.

The sidechain client is supported by the introduction of a new type of blockchain node—the Custodian node. The Custodian node keeps a full copy of the sidechain database and processes API calls. This allows the sidechain clients to focus on the work of adding blocks to the chain and maintaining consensus.

Sidechain and delegate configuration required for sidechain forging is conveniently managed in complimentary plugins for the BPL Core Desktop wallet.

SIDECHAIN TYPES

BPL Sidechains come in two versions that cover most use-cases for blockchain technology. One focuses on the functional value of the technology while the other on the value and use of the native token.

TYPE 1 SIDECHAIN- REWARDS IN BPL

TYPE 1 SIDECHAINS ARE BEST SUITED FOR THOSE THAT WISH TO GET STARTED WITH BLOCKCHAIN TECHNOLOGY BUT DO NOT INTEND FOR THE NATIVE TOKEN TO BE VALUED OR TRADED. THIS IS AN IDEAL BLOCKCHAIN TECHNOLOGY ENTRY POINT FOR ANY SMALL TO MEDIUM SIZED BUSINESS IN THE SUPPLY CHAIN OR PROVENANCE SECTORS AS WELL AS COUNTLESS AREAS WHERE DECENTRALIZED LEDGER TECHNOLOGY CAN PROVIDE VALUE TO THEIR PROJECT.

TYPE 2 - REWARDS IN NATIVE TOKEN

TYPE 2 SIDECHAINS ARE BE USED FOR NEW PROJECTS THAT DO INTEND TO HAVE A TRADEABLE CURRENCY. THE SIDECHAIN GENERATES REWARDS IN THE SAME WAY AS TYPICAL CRYPTOCURRENCY OR BLOCKCHAIN PROJECTS THAT ARE AWARDED OVER TIME TO DELEGATES

FOR FORGING THE CHAIN. THIS PROVIDES AN OPPORTUNITY TO "JUMP START" NEW PROJECTS BY FOCUSING ON THE USE CASES OF THE TOKEN AND CHAIN.

MODULAR ARCHITECTURE AND PLUGINS

The modular plugin-based architecture of BPL Core enables easy management of sidechains and delegates. A combination of plugins for BPL Core nodes and the BPL Desktop wallet work together to ensure ease of management and visibility into changes related to BPL Sidechain forging.

SIDECHAIN PLUGIN FOR THE BPL CORE NODE

EACH BPL SIDECHAIN HAS AN ASSOCIATED BPL CORE NODE PLUGIN CONTAINING THE CONFIGURATION NECESSARY FOR THE SIDECHAIN TO BE FORGED BY THE CORE NODE. THIS PLUGIN IS INSTALLED BY DELEGATES VIA THE COMMAND LINE INTERFACE (CLI).

BPL CORE DESKTOP PLUGINS

SIDECHAIN MANAGEMENT PLUGIN – Sidechain information and rewards for Type 1 sidechains are defined by the sidechain's proprietor in a BPL Desktop wallet plugin. This information is recorded in a special transaction on the sidechain each time it changes. Sidechain proprietors may redefine rewards one week in advance to manage costs and address any competition for delegates to forge for them.

SIDECHAIN FORGING PLUGIN – The sidechain forging plugin allows delegates to view information about the sidechain that they are forging for. Any changes to sidechain information and pending changes to rewards are visible immediately after that change is saved to a special transaction on the sidechain.

Additionally, this plugin allows delegates to define what percentage of their voting stake is applied to sidechain forging. This allows delegates to find a balance that returns maximum rewards by keeping the delegate in forging position on both BPL Core and the chosen sidechain.

BENEFITS

BPL Sidechains introduce several benefits not only in the ease of creating a new blockchain, but also in the areas of Core chain stability, delegate incentive and delegate competition.

BLOCKCHAIN UNCOMPLICATED

BPL Sidechains are very simple to set-up and maintain— A blockchain project can be up and running in days without an ICO or the significant cost and effort involved around marketing and promotion that is required to get a foothold in the increasingly competitive blockchain/cryptocurrency space. This frees the project team to immediately put the chain to use for the desired purpose.

BPL CORE CHAIN STABILITY

Added rewards for BPL Core delegates increases incentive for them to keep their nodes stable and forging. The added potential for non-forging delegates to receive sidechain rewards creates further incentive to host a BPL Core node. This results in greater decentralization, security and stability for the BPL Core blockchain.

CORE DELEGATE COMPETITION

Some portion of the voting stake on the BPL Core chain is allocated to sidechain forging. This creates a more competitive landscape amongst BPL Core delegates—in effect "leveling the playing field" to some degree. As sidechains are onboarded, the forging delegate list has incentive and opportunity to reallocate some of their voting stake to qualify for sidechain forging and the associated rewards. With the 4th sidechain comes rewards for standby delegates, as all forging delegates are already be forging their chosen sidechain.

BPL TOKEN UTILITY AND DEMAND

The BPL token provides access for sidechains to leverage the BPL Core delegate pool. For all type 1 sidechains, a wallet must remain funded with rewards for BPL Core delegates to continue forging their sidechain.

This utility and the added incentive for delegates significantly increases demand for the BPL token, especially considering the added incentive for delegates to increase their stake for better positioning in the delegate lists.

INNOVATION AND CONTINUAL DEVELOPMENT

As sidechains are created, some have requirements for specific features, specific transaction types, smart contracts or other improvements to the Core chain. Since all sidechains and BPL Core use the same node code, these improvements are submitted through a pull request for the associated BPL Core repository, then applied so long as there is no detrimental impact to BPL Core. As this occurs, BPL Core and all sidechains can benefit from each improvement as it is developed.

SUMMARY

BPL Sidechains represent an important next step in the progress of blockchain technology. This innovation brings a new level of ease and accessibility that allows new projects to focus on their individual mission and purpose as it provides a platform for collaborative development that enables all BPL Sidechains to benefit simultaneously from advances in BPL Core.

The mechanism employed to enable BPL Sidechains is deliberately created to increase network decentralization, token demand, and delegate incentive. This has a summary effect of greatly increasing the overall stability and security of the BPL Core network.

This introduction of BPL Sidechains paves the way for further development around BPL Core and Sidechain interactivity.

DISCLAIMER

This litepaper is for informational purposes only. The information contained is subject to change based on community testing and feedback which may alter the technical methods described herein.