



Abstract

In reality, despite the maturity of blockchain networks, only a few applications have taken advantage of the technology due to technical hassles, and the cost of integration and maintenance. To overcome the limitations, next-generation blockchain networks such as AbleBlockChain will fill the huge gap in the enterprise market to simplify the development and deployment of distributed applications.

AbleBlockChain's core architecture is based on blockchain's unique distributed ledger technology. Based on the technology, the blockchain system introduces a voting system, accounts, authentication databases, asynchronous communication, etc. By doing so, the resulting technology may effectively support millions of secure transactions within the system.

AbleBlockChain's secure and efficient transaction processing would become a pioneer in the future of database technology globally. Implementation of the software would enable enterprise applications to take advantage and enhance their business value by providing numerous benefits over those using traditional database architectures, including transaction immutability, transparency, security, reliability, and decentralization.

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AbleBlockChain

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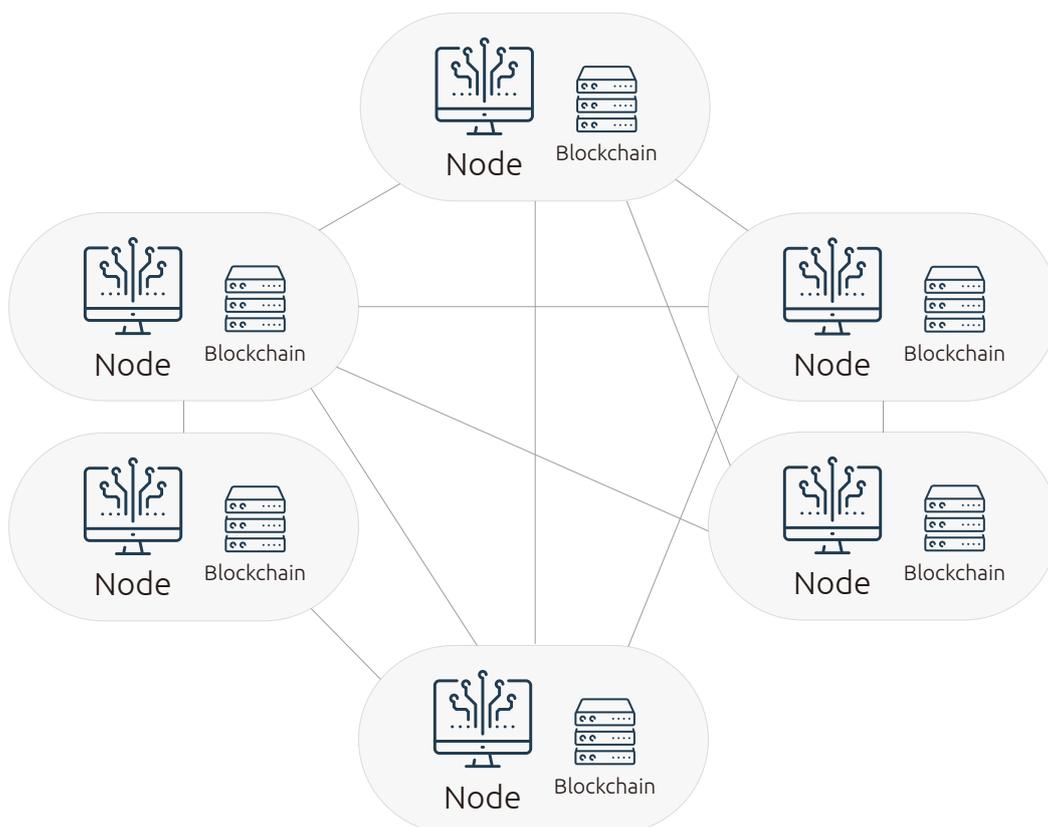
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Overview

AbleBlockChain (ABC)

AbleBlockChain (ABC) is a decentralized peer-to-peer network of nodes processing transactions, exchange of information through immutable distributed ledgers. All nodes within the system store a full copy of the ledgers, blockchain, at all times. If a node within the system would like to record information in the ledgers, first it broadcasts transaction information to all other nodes within the system. Afterward, one of the nodes then compiles all newly available transactions on the network into a block that is freshly added to the blockchain system. Once a block is successfully added to the blockchain, all transaction records contained within the block become immutable; the transactions, or information, cannot ever be altered or modified. When additional information needs to be updated, just like other database systems, a new transaction, is simply added to the ledgers. The original information that was stored in the ledgers remains intact which could be verified or recalled in a previous block permanently within the blockchain system.

AbleBlockChain's core blockchain technology is derived from Ethereum (ETH) which was originally created by Vitalik Buterin. Improving the problems of ETH, the AbleBlockChain will provide distinct advantages for business and enterprise use cases which multiple applications and implications.



Overview

Applications

Despite the increasing media coverage of major cryptocurrencies, including BTC and ETH, and other blockchain-related technologies counting the future of the blockchain industry, there has been very little adoption of blockchain technology in the actual business market.

The majority of industries that would benefit the most from the inherent advantages of blockchain are still waiting for the emergence of mature toolsets, developer ecosystems, and packaged platforms to easily develop and deploy their applications. Some enterprises slowly initiate their movement to migrate their traditional applications off of legacy database architectures onto a blockchain network but face confounding challenges and difficulties to successfully implement the new technology within their system.

While legacy blockchain networks, BTC and ETH, have gained popularity by focusing on the transfer of value digitally, cryptocurrency, the upcoming generations need to focus on how the underlying technology can be implied and evolved to new use cases. While these next-generation solutions will continuously support the transfer of value due to the fundamental need for transferable “tokens” on the blockchain network, the equal focus will be on developing new technology and use cases. To do so, AbleBlockChain will provide opportunities for businesses and enterprise developers to adjust an intuitive blockchain platform and developer ecosystem into their taste to develop and deploy decentralized applications based on the distributed ledger technology over traditional database architectures.

Overview

Distributed Applications

In the blockchain industry, distributed applications are applications that access and store chunks of information on the blockchain software. These applications typically have a “front-end” client that stores, processes, or displays the data for the application.

Typically, a traditional enterprise world's application of managing data, storing and retrieving information, would be operating a physical facility or place for secure management, costing both money and time.

Unfortunately, there are still numerous hazardous obstacles and challenges even though separately operating a facility to secure and manage an excessive amount of important data, including security issues, database corruption, geographical assessments, etc.

An innovative answer to all the issues is a distributed application. Instead of using a traditional database, developing a distributed application that can handle excessive amounts of records in real-time on a private blockchain network may effectively reduce many burdens. Each business enterprise or facility on the network can run a private node which ensures both accuracy and immutability of data across the entire network in real-time. Nodes that are lost due to disaster or downtime will still preserve all the data without any alteration or fabrication. The illustration is just one of the possible examples in a single industry, where a distributed application built on AbleBlockChain could support and create immediate business value, enhancing its efficiency while lowering its costs.



AbleBlockChain

The AbleBlockChain is a blockchain platform designed to simplify and accelerate the development and deployment of distributed applications and eventually operate on other blockchain networks in the future.

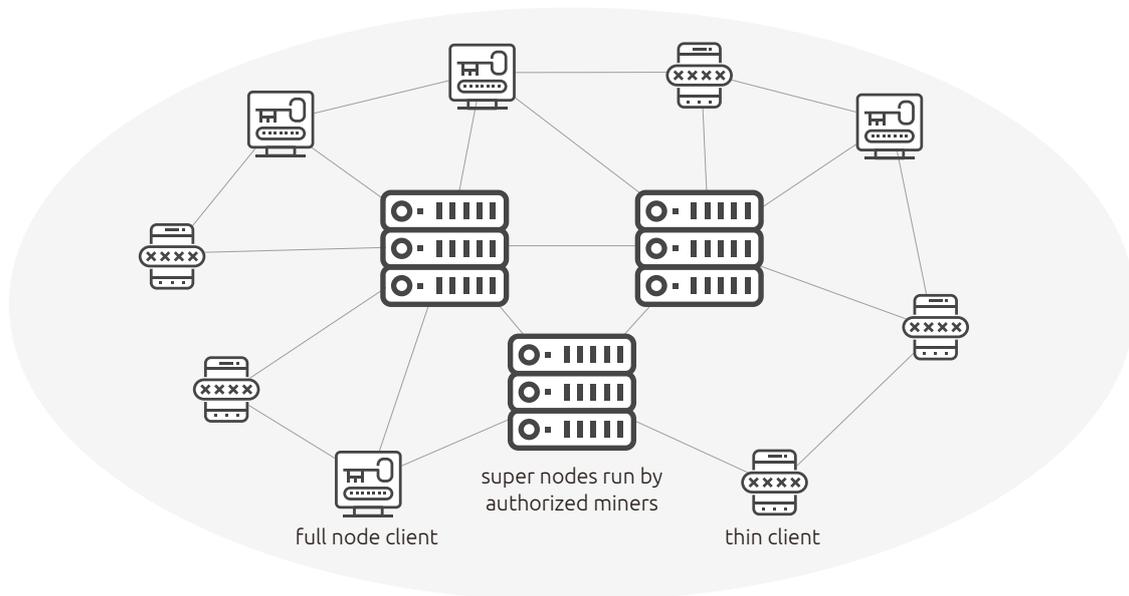
Despite there's a gradual realization from the public of the essence of adopting blockchain technology, still, technical difficulties and inadequate developer skillsets are perceived as the major obstacles inhibiting the adoption of blockchain technology for developing distributed applications in the enterprise and business worlds.

To overcome these obstacles, the AbleBlockChain Platform is established to provide multiple supports for enterprises to develop the distributed application. AbleBlockChain Platform may provide an option of RESTful APIs, one of today's popular programming languages. Such an option will allow developers to intuitively interact with the AbleBlockChain network without attaining complex background information of blockchain technology. Since most developers are familiar with RESTful APIs to interact with today's traditional databases, providing more flexibility for them to develop apps while accessing and store information on AbleBlockChain.

To sum up, deploying a new AbleBlockChain node to support an app on the AbleBlockChain Network will be simple and easy. In industries where an application or group of applications may need to run on a private blockchain, AbleBlockChain's open-source nature, along with other additional services, would promote a quick and easy task.

AbleBlockchain

Consensus Algorithm



Tokens on a blockchain network are utilized to incentivize network users to secure and operate the network. In a public blockchain network, hackers may attack or disrupt the network. To secure the network, it must adopt a certain consensus algorithm. Traditional blockchain networks, Bitcoin (BTC), consume massive energy because they adopt a consensus algorithm of proof-of-work (POW), requiring nodes to solve computationally heavy problems. As rewards, the network distributes BTC for its network users who verify new blocks added on the blockchain. A consensus appears when the majority of the computational power on the network agrees while preventing any attack attempts.

The next generation of cryptocurrency, Ethereum 2.0, has adopted a proof-of-stake (POS) consensus algorithm model. POS is operated based on the holding volume of network tokens. The holding amounts function as the number of votes to verify new blocks and secure the network. Users with more tokens have strong voting power since they have relatively high risks of losing their rights in the emergence of network attacks. Those who stake the tokens and verify new blocks get some incentives as rewards.

Unfortunately, the consensus algorithm also has its weakness in Dos(denial-of-service) attacks and transaction speed. As blockchain networks grow, companies in the field realize the pros and cons of 51% rule and decentralized ecosystem. Just as the Earth rotates, the blockchain consensus algorithm retreats its operating system back to be bit centralized and adopted another consensus algorithm called Proof-of-Authority, POA.

AbleBlockChain

One of the notable advantages of POA is that its low computing power and doesn't produce any significant strain on the electricity comparing to POW or POS. Moreover, POA is the safest algorithm from 51% of Dos attacks, and the transaction speed is significantly faster than any other consensus algorithm model.

The AbleBlockChain Coin, ABC, will allow the users to experience a trustworthy blockchain service. To satisfy the user needs, the blockchain targets to transmit data with confidence without the wonder of "Who can I trust?." ABC will take over the position for those who need blockchain technology in their business.



AbleBlockChain

Strengths – RESTful API

By enabling developers to instantly deploy a full AbleBlockChain Node with single API calls, they will have easy access to a local testbed connected globally on the network. The feature would allow the rapid development of distributed applications. AbleBlockChain APIs will be designed with simplicity as its priority. Therefore, the enterprise application developers who are used to work with traditional interfaces will be easily adaptable to the environment and create new applications on AbleBlockChain to store or access information without knowing complex blockchain knowledge, due to the similarity in API design. The unnecessary blockchain and network details will be hidden from the developers. Instead, APIs only display the interfaces necessary to develop or deploy scalable distributed applications.

To do so, developers must attain a tool to deploy their distributed applications and services in a way that is duplicatable, maintainable, and reliable. AbleBlockChain provides a medium for distributed applications to discover the appropriate AbleBlockChain node to use for communication with the network while improving its performance and availability. In case of the absence of a suitable node, the applications may be converted to one of the network nodes and become a part of the network. The applications may have the ability to monitor the network security and deploy new nodes in the event where nodes lose connectivity, to prevent network outages and maintain the network reliability and availability.



REST API



Mobile Applications



Web Applications



Cloud-Based Services



Partner Applications



Cloud Resources



Data



Application Servers



Legacy Applications

AbleBlockChain

1. Simplification

Application Programming Interfaces (APIs) must be purposefully designed. In the case of AbleBlockChain, the APIs are aimed to be designed for network simplicity. To drive the active adoption of blockchain technology, AbleBlockChain staffs put their best effort in fill out the gaps of developers' inefficient skill sets in the blockchain industry and the general difficulties of handling the legacy blockchain APIs. As a result, AbleBlockChain supplies a simplified abstraction layer API in a developer-familiar and easy-to-use format.

2. Language Support

The AbleBlockChain supports the same uniform core and layout of APIs in nearly all of today's most popular programming languages, starting with:

- Python
- JavaScript
- PHP
- C#, C+
- GO
- ETC.

3. RESTful Architecture

Beneath the language-specific libraries used to build distributed applications on the AbleBlockChain network will exist in a RESTful API layer. This API layer can be called directly with raw HTTP requests or via one of the language-specific libraries. Representational state transfer or REST is an API style used to grant interoperability between systems over a network. A REST endpoint (AbleBlockChain node) receives an appropriate HTTP request that corresponds to an API, processes the API call, then performs an action or delivers data to the caller. Integrating a RESTful architecture into the AbleBlockChain core node will bring the latest modern API architecture to the blockchain, enhancing interoperability with existing services, ecosystems, and applications.

4. Commitment

AbleBlockChain is open to design or implement new APIs that fulfill the user demand. Whether an enterprise user or an individual who launches his first distributed application on the AbleBlockChain network, our network will be majorly driven by the network users, accelerating its innovation in developing and deploying simplified distributed applications.

AbleBlockChain



Strengths – Security & Immutability

The foundation of the AbleBlockChain network affords distributed applications running on the network inherent security advantages. Due to the decentralized nature of its public network and the proof-of-stake consensus model, hacking attempts or attacks on the network are nearly impossible.

On private AbleBlockChain networks, AbleBlockChain tokens are staked by certain designated and trusted parties. This guarantees the trust for the private AbleBlockChain networks while retaining certain inherent benefits of blockchain technology.

Unlike traditional database architectures, any information stored on the network is not to altered, modified, or fabricated. Thus, the network can be utilized for records management, audit, and verification process. All the information is always stored on the network while continuously receiving and storing newly entered information, rather than modifying the existing data. The distributed applications on the network can select to recall the latest information via accessing the information at the highest block height or recall every single transaction.

AbleBlockchain

Strengths – Scalability & Reliability

The AbleBlockchain network's massive scalability, reliability, and resiliency make the network a perfect fit for enterprise and business operating applications vital to their day-to-day business needs. Through decentralized mesh networking, AbleBlockchain nodes connect the relaying blocks spread globally. Every functional node contains an entire copy of the AbleBlockchain's block information, increasing the performance since the distributed applications can select a node for information processing. The feature can drastically improve application performance and response while ensuring the information on the blockchain can be accessed nearly in any location.

The global scale of the AbleBlockchain network also provides enterprise-level reliability based on network resiliency. Nodes can join and leave the network at will, without destructing the network. Applications communicating with a node that leaves the network will simply begin communicating with another node on the network. No matter what, the outcome or the performance will always be consistent and coherent.



AbleBlockchain

Strengths – Use Cases

Blockchain technology has vast channels of implications in the business and enterprise sector. For example, secure information management of financial transactions in an immutable ledger can be tracked for audit purposes, to cloud-scale applications management for the secure access and storage of excessive information generated by millions of internet-of-things (IoT) devices. The AbleBlockchain network can promote and enhance the industry business value by revolutionizing the way that enterprises develop and deploy applications in nearly every industry.

1. Secure Records (Information) Management

The AbleBlockchain network provides a secure and decentralized ledger to support the management of records in any form.

2. Compliance & Audit

Information and transactions serialized in the AbleBlockchain are immutable, ensuring the accuracy and transparency of information when retrieved for compliance or audit purposes.

3. IoT & Big Data

The AbleBlockchain can provide a decentralized medium for the next generation of IoT devices for communication and secure authentication process while processing a massive amount of transactions and data.



Roadmap



2021. Mar

Launch Project

2021. Q2

Design & Develop Prototype

2021. Q3

Launch ABC Mainnet

2022. Q1

Launch Public Blockchain

2022. Sep

Build Partner Network