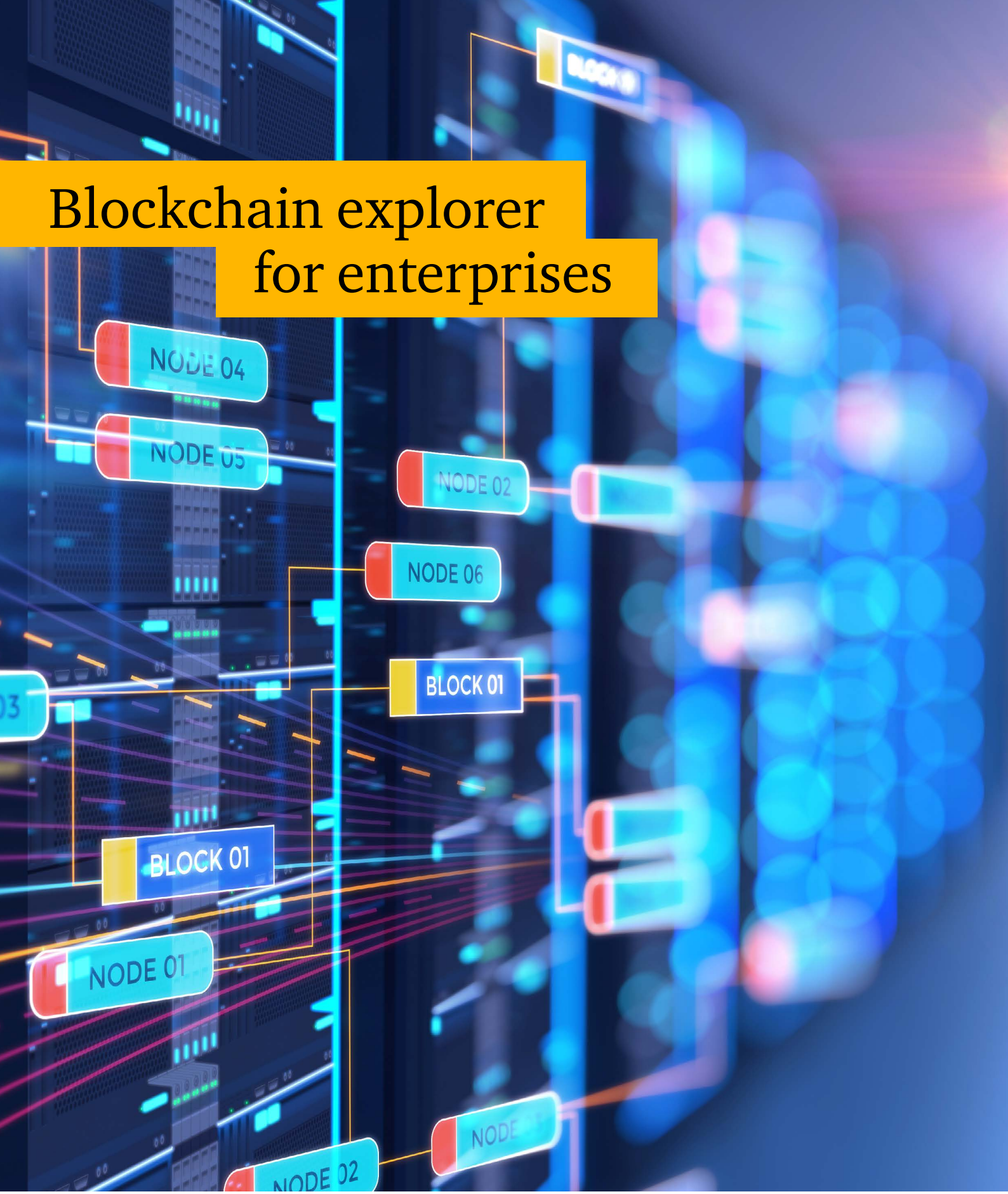
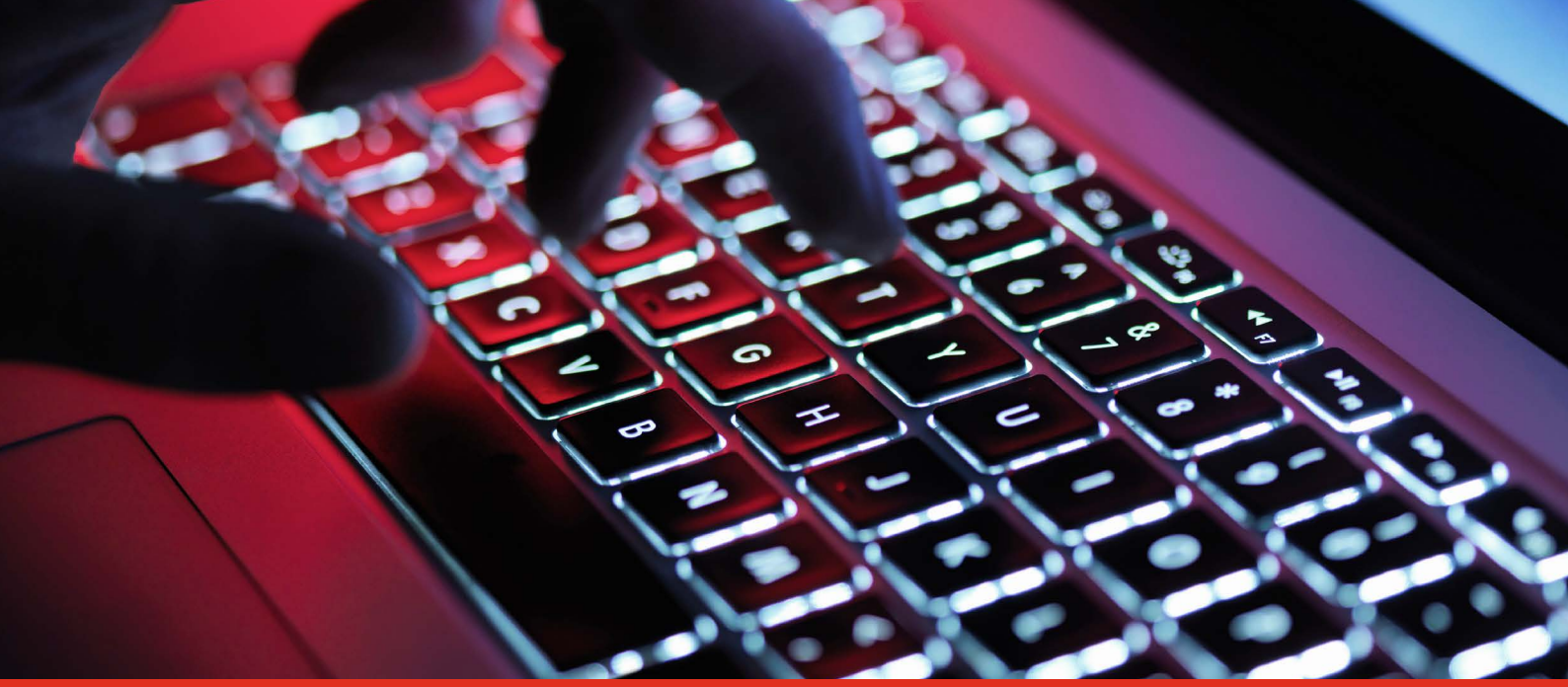
Blockchain explorer for enterprises



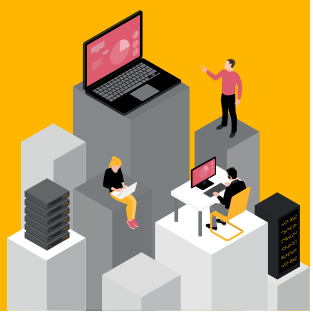
pwc



Blockchain explorer for enterprises

In recent times, blockchain has become a popular topic at boardroom discussions. Most businesses are transitioning certain parts of their transactional operations to blockchains. However, the general perception is built around popular and public blockchains which are not preferred by enterprises. Instead, most enterprises opt to develop private and controlled ecosystems and invite participants to those. One of the world's largest e-commerce giants uses a private blockchain network to back up its supply chain processes. Moreover, it is planning to implement blockchain-based food tracking – from farmers to consumers – at various stages of user involvement. Similarly, enterprises too can make the most of their blockchain network by creating access controls to historical snapshots of their blocks.

Strategic benefits of using blockchain for enterprises



Improved efficiency: Private blockchains can streamline business processes by enabling secure and transparent data sharing between different departments or stakeholders. This can reduce the need for intermediaries and increase the speed and efficiency of transactions.

01

Enhanced security: Private blockchains are designed to be permissioned – meaning that access to the network is restricted to authorised users only. This will help to protect sensitive business information from cyber threats.

02

Increased privacy: Private blockchains can offer greater privacy than public blockchains, as only authorised users can access the network. This can be particularly important for enterprises that handle sensitive or confidential data, such as financial institutions, healthcare providers or government agencies.

03

Customised governance: Private blockchains enable enterprises to design their own governance structure and consensus mechanism to suit their specific needs. This can help to ensure that the network operates in a way that aligns with the enterprise's objectives and values.

04

Reduced costs: Private blockchains can reduce the costs associated with intermediaries, such as banks or clearinghouses, and the costs of maintaining and securing traditional databases. By using blockchain technology, enterprises can create more efficient and cost-effective business processes.

05

Overall, private blockchains can offer enterprises greater control, security and efficiency compared to public blockchains.

Where to start

As with any new technology, the first step for an enterprise would be to procure/build the infrastructure of a blockchain. Once a blockchain setup is completed, the next step is to strategically migrate portions of the transactional business from Web 2.0 (centralised) to Web 3.0 (decentralised). After this, the enterprise will have the capability to build various business applications on top of the blockchain and expose those interfaces to its internal and external stakeholders.

Blockchain infrastructure

Setting up the blockchain infrastructure is very similar to setting up the highway network for your enterprise, which will open up business collaboration with internal as well as external stakeholders.

Migration strategy

This involves strategic thought process for migrating portions of transactional businesses from centralised Web 2.0 to decentralised Web 3.0. The strategy is developed considering various business and functional requirements.

Application development

Various business applications are created on top of the blockchain and shared with our internal and external stakeholders.

What is a blockchain/block explorer?

In any transactional system, there is a requirement for a central viewer to have an overview of the transactions taking place. This is where a blockchain explorer can prove to be useful.

A block explorer is a web-based tool that allows users to explore the contents of a blockchain. It provides a user interface that enables users to view and search transactions, addresses, blocks and other data on the blockchain. Block explorers are commonly used to track the progress of transactions and verify that the transactions have been confirmed by the network.

Most block explorers provide a search box where users can enter a transaction ID, address or block number to retrieve information about the corresponding transaction or block. Block explorers typically display information such as the transaction hash, block number, timestamp, inputs and outputs, and fees associated with each transaction. They may also display charts and graphs that show network statistics – such as the number of transactions per day, or the distribution of the transaction fees.

Moreover, there are many other block explorers in the market for various cryptocurrencies and blockchain networks.

Advantages of using block explorers in enterprises:

1. Enable transparent operations: Block explorers can make blockchain operations transparent for enterprises, which can be useful in regulatory compliance, auditing and reporting.

2. Anticipate security threats: All data transactions can be monitored with a block explorer. Furthermore, it can flag suspicious activities, potential threats or unauthorised access attempts on the block.

3. Leverage analytical data insights: Block explorers can provide valuable insights – such as transaction volumes, frequency and patterns – into an enterprise's blockchain, which in turn can be used for making decisions based on business intelligence and forecasts.

4. Verify records: The authenticity of transactions can be proved by verifying their records on the blockchain. This can be useful in supply chain management, contract execution and other applications.

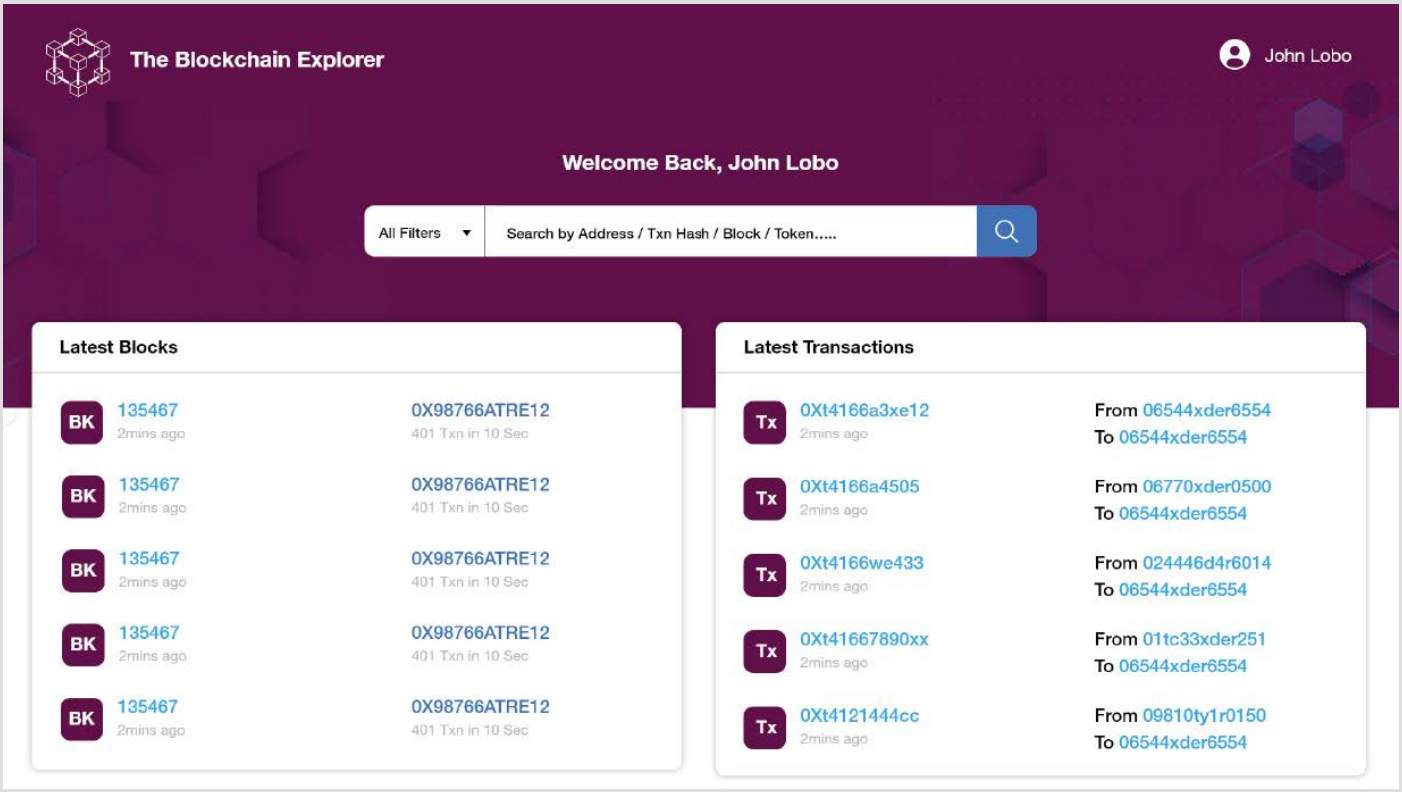
5. Enable collaboration: Block explorers can facilitate collaboration between different entities on the same blockchain network, enabling secure and transparent communication and coordination between parties – such as in a supply chain or consortium.

Overall, block explorers can be powerful tools for enterprises and help them harness the full potential of blockchain-driven innovations.

Enterprise blockchain explorer

We are introducing a new product in the active blockchain explorer market, which enables easy exploration of block assets. We have developed an integrated blockchain explorer for enterprises, which sits on top of private blockchains. All private transactional data can be obtained with the help of our robust architecture which provides useful navigation tools. Our product offers constant platform-specific upgrades and maintenance, which appeals to enterprise users with specific technical requirements.

Mock-up of a blockchain explorer



Features

1. Track changes from creation till end-of-life of a block.
2. Access and log technical details and attributes such as block hash, parent block and nonce of each block.
3. Track the entire transaction history of each block individually.
4. Log and validate details of a transaction along with its attached properties.

How can PwC help?

We have developed a one-click deployment model for setting up private blockchains for enterprises. The model comes with a multi-node deployment pipeline wherein the administrator has the privilege to provide certain role-based access to any node user, and it runs with proof of authority consensus. It also has an in-built blockchain explorer. Moreover, the model supports all popular blockchain services that are available on the cloud.

We also help enterprises in their strategic transitions from Web 2.0 to Web 3.0.

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 152 countries with over 328,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

Contact us

Indrojeet Bhattacharya
Managing Director, Emerging Technologies

Ashootosh Chand
Partner, Emerging Technologies

Contributors

Indrojeet Bhattacharya
Managing Director, Digital and
Emerging Technologies – Web 3.0

Biswanath Das
Associate, Emerging Technologies

Pooja Jalilkop
Senior Manager, Emerging Technologies

pwc.in

Data Classification: DC0 (Public)

HS/March 2023/26580