Survey Report on Types of Blockchains and Real-Time Use Cases

Introduction

Blockchain technology has gained significant traction in recent years, offering innovative solutions across various industries. This survey report aims to provide an overview of the different types of blockchains and their real-time use cases. The blockchain ecosystem encompasses a wide range of platforms and applications, each with its unique characteristics and capabilities.

Types of Blockchains

Public Blockchains

Bitcoin (BTC): The first and most well-known cryptocurrency, Bitcoin is a decentralized, public blockchain used primarily as a store of value and a medium of exchange.

Ethereum (ETH): A versatile public blockchain that enables the creation of smart contracts and decentralized applications (DApps). Ethereum's blockchain is a popular platform for decentralized finance (DeFi) and non-fungible tokens (NFTs).

Binance Smart Chain (BSC): Developed by Binance, BSC is a fast and low-cost public blockchain used for DeFi, token swaps, and NFTs.

Private Blockchains

Hyperledger Fabric: An open-source, permissioned blockchain framework designed for enterprise use. It is widely used in supply chain management and healthcare.

Corda: A permissioned blockchain developed by R3 for financial institutions. It is used for managing complex financial transactions, such as trade finance and identity verification.

Quorum: An Ethereum-based, permissioned blockchain developed by JPMorgan Chase. Quorum is used in the financial sector for applications like payment settlements and clearing.

Consortium Blockchains

Ripple: A consortium blockchain designed for facilitating cross-border payments and settlements. Financial institutions use Ripple's blockchain to improve international money transfers.

Hyperledger Sawtooth: An open-source, modular blockchain platform within the Hyperledger consortium. It is used for supply chain management, voting systems, and more.

Corda (Consortium Version): Corda can also be configured as a consortium blockchain, allowing multiple parties to collaborate on specific use cases, like trade finance or healthcare records.

Real-Time Use Cases

Supply Chain Management

Walmart and IBM's Food Trust: Using Hyperledger Fabric, this platform tracks the origin of food products in real-time, improving food safety and transparency.

Maersk and IBM's TradeLens: A global shipping solution built on Hyperledger Fabric, this platform enhances transparency and efficiency in supply chain logistics.

Healthcare

MediLedger: A consortium blockchain powered by MediLedger Network, it ensures the authenticity of pharmaceutical products and prevents counterfeiting.

Patientory: A healthcare DApp built on Ethereum, Patientory securely manages patient records and enables telemedicine.

Finance

DeFi Platforms: DeFi projects like Compound and Aave on Ethereum provide decentralized lending and borrowing services in real-time.

Cross-Border Payments: Ripple's XRP ledger allows financial institutions to facilitate cross-border payments in real-time, reducing costs and settlement times.

Voting Systems

Voatz: Voatz uses Hyperledger Sawtooth to enable secure and transparent mobile voting for remote voters.

Aragon: Built on Ethereum, Aragon provides a framework for decentralized organizations, including transparent governance and voting systems.

Conclusion

Blockchain technology continues to evolve, offering a wide array of applications across various industries. Whether it's the transparency of public blockchains, the control of private blockchains, or the collaboration of consortium blockchains, the technology's real-time use cases are vast and expanding. As industries continue to explore and adopt blockchain solutions, we can expect even more innovative applications to emerge in the near future.