Stellar Development Foundation

2025 Policy Briefs:

PAYMENTS

The next step in payments with digital assets: government spending

How to Improve Government Efficiency with Blockchain

When we look at the uses of blockchain technology today, one of the most transformative is payments. From increasing global access to digital dollars to reducing the costs of cross-border payments, blockchain has improved financial services for individuals and businesses around the world. The time is ripe for governments to also harness blockchain's benefits for payments.

Blockchain transactions are typically processed at a low cost and can be followed in real time. When it comes to publicly funded initiatives, taxpayers and government entities alike should welcome these characteristics for the increased efficiency and transparency they bring.

But not all blockchains are created equal. Private, permissioned blockchains defeat the main purpose of adding blockchain technology to the government toolkit: transparency. These closed networks are still managed in a centralized way and keep transaction data restricted.

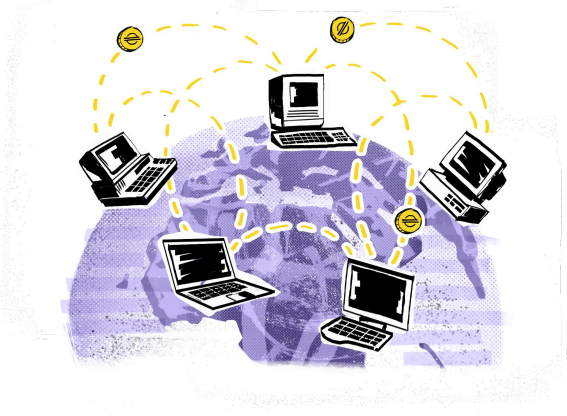
Bringing public spending to private, permissioned blockchains would fail to achieve a meaningful difference. It would be just a way of changing the underlying technology of government payments so that things stay the same.

Public blockchains, in contrast, favor accessibility and interoperability. Much like the internet, public blockchains are open and based on standardized protocols that facilitate the interaction between different systems, fostering accountability, innovation, and competition.

Governments would not have to pick one blockchain to rule all payments or commit to a specific system or design. Different public blockchains are optimized for different use cases–from memecoins to payments. Governments can get maximum benefits by picking and choosing based on fit, depending on their need in each concrete case.

Moreover, as no single party controls public networks, no one can willingly or accidentally tamper with its records or data. Public blockchains have, therefore, strong reliability and operational resiliency as they eliminate single points of failure or attack.

The decentralized nature of public blockchains is not, however, a limitation for having asset controls that issuers can apply according to their compliance needs and regulatory requirements, like KYC/AML checks, as demonstrated in the next section.



Neither are public blockchains necessarily transparent all the time. Some types of government spending require an increased degree of privacy. Paying a contractor selected in a public tender to execute a construction project is different from paying civil servants their salary.

Depending on the level of privacy protection granted by law, additional privacy-enhancing tools can be used with public blockchains–from disposable aliases and wallets, created for specific transactions and frequently changed, to zero-knowledge proofs, a method of proving the validity of a statement (like age) without revealing any additional information.

Bringing Public Spending to Public Blockchain

Besides the typical benefits that public blockchains can bring for tracking public spending and facilitating government payments, the Stellar network has some features that make it even more appealing.

First, validator nodes on the Stellar network do not compete for a reward or receive any financial incentive when they process transactions. They instead collaborate to reach a network-wide agreement about the validity of transactions. Only then are the transactions confirmed and finalized–and the whole process takes, on average, 5 seconds.

This feature brings neutrality to the Stellar blockchain since no validator would financially benefit from the massive number of transactions any government would bring to the network. Unlike other protocols, transaction fees charged on Stellar exist to curb network abuse, like spamming, and are eventually burned instead of going to validators.

Second, Stellar's validators are a set of known entities that trust each other. With Stellar, governments would get the benefits of decentralization without the tradeoffs of having random actors participate in the validation process of transactions without being trusted by other validators.

On Stellar, participation in transaction validation is not based on computational power and energy (mining) or token accumulation (staking). It’s instead based on the reputation of the entities running validator nodes and the trust they put in each other. Once agreement is reached among validator nodes, it’s final and cannot be reversed.[1]

Third, sending transactions on Stellar is extremely cheap: every $1 in fees powers about 10,000 transactions. Even under an optimistic assumption that governments currently spend as little as $1 for every payment processed by the traditional financial system, the potential for massive cost reduction is evident.

[1] https://stellar.org/learn/stellar-consensus-protocol

Fourth, the Stellar network offers a unique open-source solution to facilitate bulk payments, the payment of multiple receivers at once: the Stellar Disbursement Platform (SDP). Through SDP, payments of any size move in real-time and settle nearly instantly with full certainty of funds delivery.

SDP could completely change how public spending works, improving accountability through enhanced transparency. All disbursements would be made with comprehensive visibility throughout the process, allowing end-to-end tracking and greatly contributing to reducing fraud and abuse.

Crisis response transfers, like those related to Hurricane Helene relief efforts, would move quickly and with real-time tracking, reaching those in need when they need help the most–not months later. Social security benefits and tax refunds would be delivered to the right beneficiaries directly, every time.

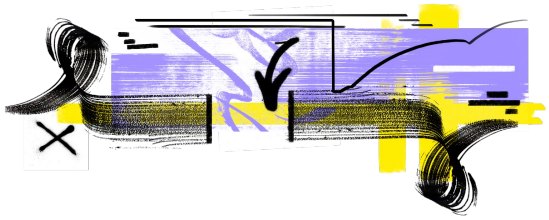
These payments could reach anyone with a phone number and valid ID. There would be no need to require bank accounts from recipients or mail them checks and prepaid cards. Embedded verification features would ensure money only goes to the intended recipients. And no money would move until it was claimed by the recipient, ensuring funds are not delivered to inactive accounts.

Fifth, the Stellar protocol comes with built-in controls to ensure precise asset distribution and management. Asset issuers can easily use embedded configurations to, for example, require users to get KYC/AML clearance before they can hold an asset in their Stellar address.

On Stellar, moreover, these controls are native to the platform and can be implemented directly without additional coding. In fact, the Stellar network has intuitive “asset flags” that can be used to turn on control features, like freezing and clawback, at the time of asset issuance.[2]

Finally, no central bank digital currency (CBDC) would be needed to make this transformation happen. Governments could choose from a variety of existing dollar-backed or treasuries-backed tokens, like stablecoins and money market fund shares, to make disbursements or individual payments. This option would strengthen the public-private partnership that has for centuries defined the provision of money and payments.

Increasing government efficiency in payments is no easy task. But with public blockchains like Stellar, we have a real opportunity to make it happen–right now.



[2] https://stellar.org/blog/tools-solutions/app-for-issuing-tokens-assets-on-stellar-testnet

THE STELLAR DEVELOPMENT FOUNDATION

The Stellar Development Foundation (SDF) is a US-based nonprofit organization focused on working with and supporting changemakers to create equitable access to the global financial system through blockchain technology. Founded in 2014, SDF supports the continued development and growth of the Stellar network and also serves the ecosystem of NGOs, corporations, universities, small businesses, governments, and solo entrepreneurs building on the Stellar network through tooling, funding, and strategic collaborations. The Stellar network is a decentralized, fast, scalable, and uniquely sustainable blockchain built for financial products and services.

Find out more at the SDF Policy Hub
https://stellar.org/policy-hub