stellar

Connecting financial institutions, payments systems, and people.

Move money to anyone on the Stellar network quickly, reliably, and at almost no cost.

AN OVERVIEW BROCHURE FOR PARTNERS

What Is Stellar?

The Stellar network is an open financial protocol that enables money to move directly between people, companies and financial institutions as easily as email.

Stellar, or the Stellar Development Foundation (SDF), was founded in 2014 to enhance financial inclusion for the estimated 2.5 billion unbanked people who, according to the World Bank, make up about half of the world's adult population.

The Stellar network, which serves as an underlying infrastructure for payment processing, facilitates safe, low-cost and convenient transfers of money between people, financial institutions and companies. The Stellar network supports large business-to-business transactions, micro transactions as well as local and global transactions, through the use of a distributed ledger and the Stellar Consensus Protocol (SCP).

With Stellar, sending money in any currency to anyone, anytime, anywhere in the world is like sending an email: simple, fast, and system-neutral.

Stellar supports exchange of any world currency, including dollars, pounds, pesos, euros, and naira. Stellar can be used by banks, microfinance institutions, governments, remittance companies, exchanges, startups, hospitals, and other corporate entities that require a convenient platform to connect and move money. Stellar is a free open-source technology.

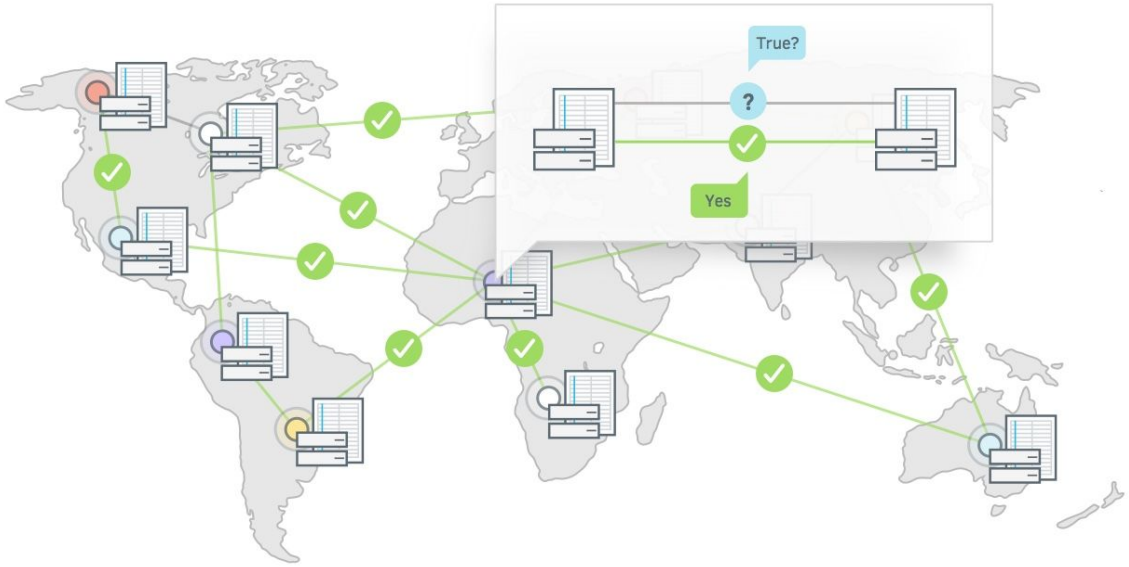
"We envision a world where payments can go to anybody in the world instantly, regardless of where they are and what system they use."

Jed McCaleb, Cofounder and CTO of Stellar.org

How Stellar Works

Stellar is a decentralized network of servers in many locations that power a **distributed ledger**.

This ledger records every transaction in the system. A complete copy of the ledger exists on each server on the Stellar network. These servers communicate with each other to verify transactions and sync the ledger every 2-5 seconds. This mechanism is known as **consensus**.



Organizations connect to, or **integrate** with, the Stellar network, in order to send or receive transactions across the network. One particular type of integrator is an **Anchor,** they act as bridges between customers who use a given currency and the Stellar network, often providing the forex market making activities for payment settlement. Banks and payment processors are good examples of anchors. Anchors are trusted to accept deposits and honor withdrawals.

The **ledger** records money deposited through anchors as credit. Credit is issued to a customer's online account, which acts like a virtual wallet. Issued credit can be sent and received between people on the network as easily as email.

In addition, Stellar has a built in **exchange platform**, enabling transaction processing and trade of any currency, asset or token. Therefore, it is possible for a person in the US to send USD to a friend in Nigeria and have the money arrive in naira. The network converts USD to naira at the lowest rate.

How is Stellar different from Bitcoin?

While Stellar was inspired by Bitcoin, the two differ in fundamental ways.

The primary purpose of bitcoin is to act as an alternative currency, while Stellar is an open payments standard that makes currencies and payment networks interoperable. Additionally:

Governance: Bitcoin consists of a loose confederation of developers, miners, exchanges and coin holders, each of whom influences the currency's governance in different ways. Stellar, on the other hand, operates as a non-profit organization focused on building an internet protocol for payments.

Compliance: The Stellar compliance protocol allows financial institutions on both sides of the transaction to do the necessary regulatory checks on the sender and receiver before a payment is sent. This is a unique feature of Stellar and greatly reduces the regulatory burden for financial institutions while providing greater transparency for regulators.

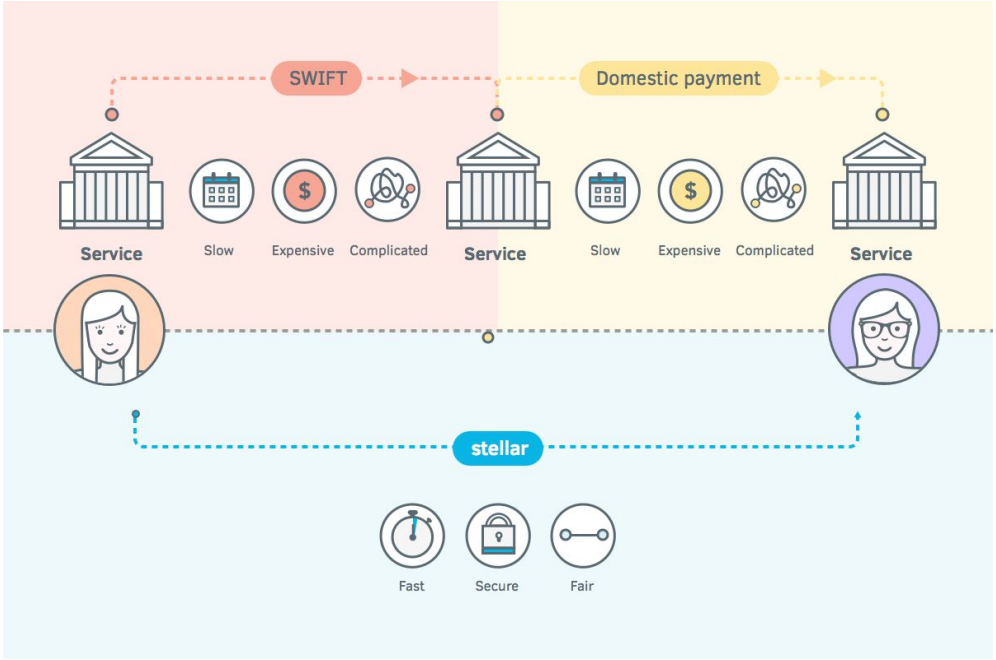
Consensus: Bitcoin relies on a resource intensive process called "mining" to reach consensus. Truth in the network is decided by the people with the most computational power. Stellar uses an algorithm called the Stellar Consensus Protocol (SCP). It uses simple message passing and truth is determined by the set of participants you choose. The choice of consensus algorithm has several repercussions:

> **Speed:** A reasonable amount of time for a large bitcoin transaction to be confirmed is around an hour. Stellar transactions are confirmed in 3-5 seconds.
>
> **Safety:** SCP allows each individual validator to choose what other validators it listens to. This means that the network or your institution are not subject to the whims of those with the most computational power.
>
> **Cost:** At $5.00 per transaction, bitcoin transactions are actually quite expensive. Since consensus in the Stellar network is reached through SCP — a much more efficient algorithm — the cost is negligible.
>
> **Scalability:** The Bitcoin network is currently limited to seven transactions per second, causing long delays before transactions clear. Stellar can process thousands of transactions per second on modest hardware.

Stellar Advantages: Remove Legacy Limitations

The Stellar network provides numerous advantages for cross-border payments, ultimately saving billions for consumers and the financial services industry.

- Extremely **low transaction cost**
- **High transaction speed** at 3-5 seconds
- **Highly scalable** at 1,000+ transactions/second
- Multisig and batching functions support **Smart Contracts**
- Built in **Compliance Protocol** supports diverse regulatory requirements
- Built in **Exchange Platform** enabling seamless currency conversion
- **Reduced exposure** to currency volatility
- **Low cost of entry** for integrators
- **Publicly available** consensus protocol (SCP)
- Facilitates **financial inclusion**



How the Stellar Ecosystem Works

You can build a wide range of products on top of Stellar, from mobile wallets and banking tools to smart devices that pay for themselves. *The ecosystem has three main components:*

API: Horizon

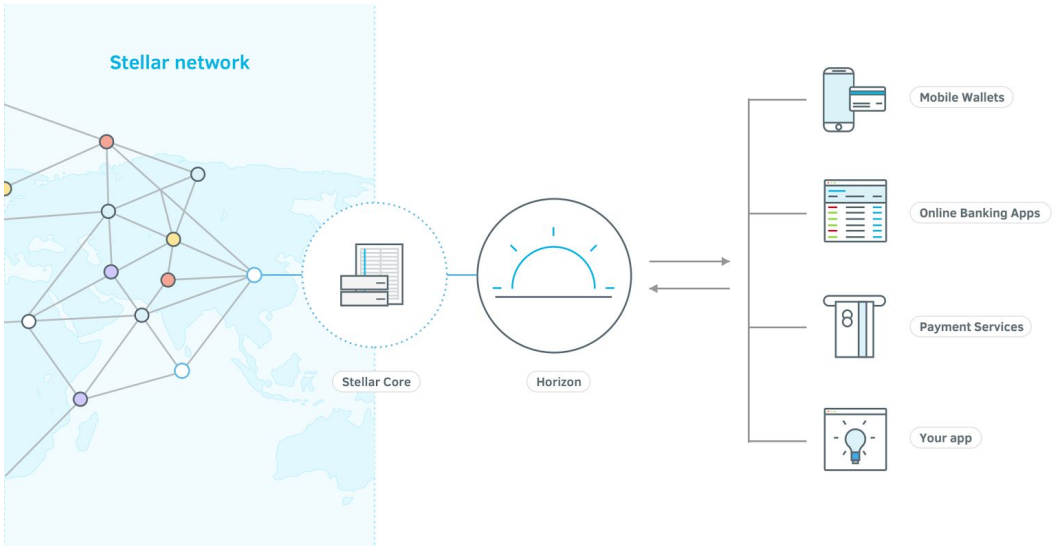
Most applications interact with the Stellar network through Horizon, a RESTful HTTP API server. Horizon gives you a straightforward way to submit transactions, check accounts, and subscribe to events.

Stellar Core

Every Horizon server connects to **Stellar Core, the backbone of the Stellar network.** The Stellar Core software does the hard work of validating and agreeing with other instances of Core on the status of every transaction through the Stellar Consensus Protocol (SCP). The Stellar network itself is a collection of connected Stellar Cores run by various individuals and entities around the world.

The Stellar Network

The Stellar network is a worldwide collection of Stellar Cores, each maintained by different people and organizations. The distributed nature of the network makes it safe and reliable.



Stellar Deployment

The Stellar network acts as a low-cost, high speed back-end payments platform that licensed financial services providers can leverage to develop smart, and affordable financial services their customers.

Stellar works directly with financial institutions, ranging from multinational banks to local mobile money operators, supporting their integration onto the Stellar network.

Organizations connect to, or **integrate** with, the Stellar network to lower transaction costs and thereby serve new customers. These organizations are referred to as **integrators**. A kind of integrator crucial to Stellar's deployment is an **anchor**. Usually financial institutions licensed as money services providers, anchors are trusted to accept deposits and honor withdrawals. To facilitate low-cost services such as remittances on the network, each country needs an anchor integration. Anchors are able to generate additional value for their business on the Stellar network, as a market maker

End users are the customers who use the services developed by integrators. The key objective is to reach the underserved market by lowering financial transaction costs and promoting the development of new financial products that are inclusive, targeting those who are outside the banking circle to connect them to the global economy.

Stellar and the Financial Regulatory Authorities

There are several reasons why Stellar's deployment model poses no challenge to financial regulatory authorities.

Stellar's deployment model is to act primarily as a backend financial infrastructure provider, which means it does not interface with users.

Only duly licensed financial services providers that have met all relevant regulatory requirements will be able to launch successful services on the network.

The licensed financial services providers will be the ones to interface with customers, not Stellar. This design ensures full compliance with the Know Your Customer (KYC) process that aims to prevent identity theft, money laundering, financial fraud, terrorist financing, and other related issues.

In this way, users' real identities will be directly mapped to the cryptographic data that exists in Stellar's distributed ledger. And because of the strict data integrity rules and transparent nature of the Stellar blockchain technology, all transactions will be securely recorded and can be easily tracked and made available to the regulatory authorities.

Bottom Line: Unlike closed blockchain systems such as Bitcoin, whose key deployment strategy is to promote the anonymity of its users, Stellar's model is transparent and helps financial institutions better comply with regulatory requirements.