



# Block Transfer

*Capital markets are supposed to facilitate the efficient formation of capital to support the expansion and growth of business and the creation of employment and prosperity for all of society.*

*But these days the exchanges are all for-profit businesses, and they all seem to be beholden to their best customers... who have the least to do with the purpose for which markets actually exist in the first place.*

— Erik Townsend

This Investor Report is based on our first patent application.

## 1 Motivation

What if you didn't have to wait days for trades to clear, pay exorbitant hidden fees to your broker, or worry about holding counterfeit stock?[19][5][1]. We estimate that convoluted trading systems cost the average stock investor hundreds of thousands by retirement through compounding hidden fees.

Transfer agents can uproot industry behemoths by undermining their grasp on capital markets. In particular, all brokers are commingled as but a single investor on the books of public companies. Public firms hire a “transfer agent” to maintain these investor records.

The stock transfer agent industry has consolidated to four major providers over the past few decades. Service amongst them has dwindled while prices skyrocket. Issuers are not satisfied.

Legacy transfer agents force investors to physically visit American bank reviews your identification documents, wait for a tedious banker review, snail mail everything, and hope for an unhurried response.

We think significantly more investors would use transfer agents if their trading experience was digital and streamlined. Think of it as electronically signing over a certificate in exchange for cash, rather than using a legacy broker.

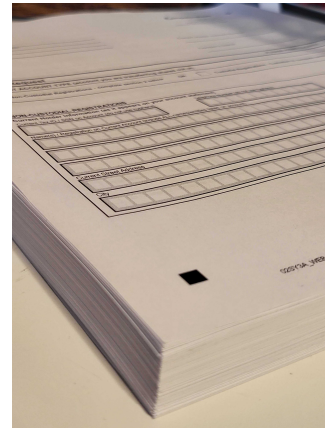


Fig. 1: Legacy Private Trade Paperwork

Legacy transfer agents haven't offered a trading interface because old market technology required centralized investor coordination. Securities laws disallow transfer agents from this. But decentralized ledgers and particularly the Stellar Decentralized Exchange (“SDEX”) let book-entry investors match trades from anywhere with zero middlemen.

### 1.1 Legacy Accounting Sacrifices Accuracy

- Dole Foods went private for \$1.2B in 2013. The company only had 37M shares outstanding, but brokerage investors held 49M shares—12M extra. A third of the company's supposed investors didn't get paid in a later class action. [11, 12]

- Two investors bought 125% of shares in a real estate company in 2005. [2, 7]
- Investors voted 135% of shares in a top US defense contractor’s meeting. [4, 15]
- Investors acquired 120% of Overstock.com shares in 2006. [14, 16]
- Investors bought 105% of shares in GameStop in 2022. [17]
- Investors voted more shares than issued in 75% of 2019 annual meetings. [13]

When we assign all our trust to a few central bookkeepers, we grant them the power to decree data transparency, investor accessibility, and arbitrary economic rents.

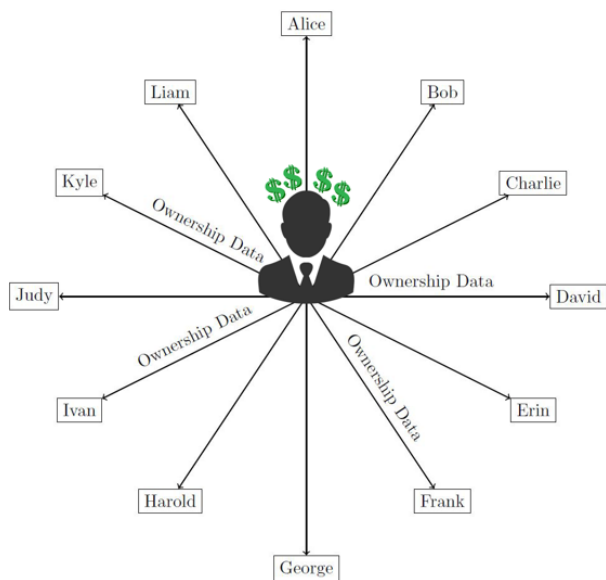


Fig. 2: Centralized Bookkeeping

Today, centralized transfer agents slow us down with mountains of paperwork. The nature of their centralized systems require high fixed compatibility costs and human interaction, which often means snail mail and phone calls. But, with a slight change, we think transfer agents are the future of capital markets. We’re redesigning capital markets *without* centralized middlemen to eliminate profiteering from artificial shares, un-

equal access to investments abroad, and inequitable return distributions.

## 2 Digital Transfer Agent

Old transfer agents use paperwork and centralized databases for stock ledgers, which means manual data manipulation for every transfer. But people aren’t very reliable when it comes to extremely repetitive math or nuanced numerical systems.

Unfortunately, the industry is rife with agents making simple arithmetic errors despite one prevalent software suite provider. Moreover, slow response times from overworked agent representatives can frustrate issuers and investors alike.

Regulation gives agents three days to respond to “routine” transfers, meaning you already spent three days getting a medallion stamp. From the moment all your paperwork lands in their mailbox, an agent can sit on their hands for days until they get around to updating their ledger. It’s even worse if you try to transfer “non-routine” restricted shares.



Fig. 3: A Medallion Stamp

### 2.1 Automation

New cryptographic technology lets us use proven mathematics instead of paperwork and trusted central processors. Namely, distributed public ledgers enable global investing by giving everyone the same *digital* trading rules.<sup>1</sup>

These new systems can drastically boost investor protection, voting transparency, and market confidence by eliminating hidden

<sup>1</sup>Using “trade” for when an investor transfers shares in exchange for a simultaneous transfer of dollars.

back-office errors and processing time. In particular, Stellar ledgers close about every five seconds. Marginally slowing down trading into SDEX batches curtails riskless arbitrage opportunities, enhances investor liquidity, and curbs market volatility. [3, 6, 8]

### 2.1.1 General overview

Distributed ledgers let us keep track of investor balances using time-tested algorithms that execute in seconds, 24/7/365.<sup>2</sup>

Instead of manipulating Excel spreadsheets, digital assets use programmatic “atomic execution.” That means trades take full and immediate effect, or they fail. No waiting for mail. No hard-copy documents. No mystery counterparty delivering shares a week later. Just digital signatures.<sup>3</sup>

### 2.1.2 Trust in math, not middlemen

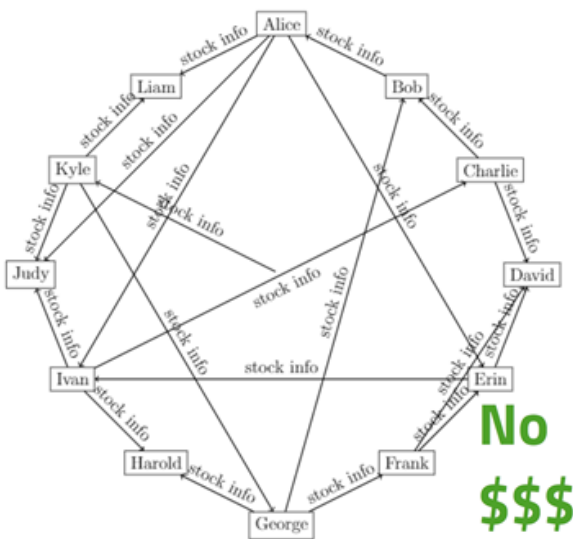


Fig. 4: Distributed Bookkeeping

To join the network, investors just privately associate their identity with a cryptographic public key. In practice, investors complete standard identity verification onboarding and generate a Stellar keypair.<sup>4</sup>

<sup>2</sup>In particular, we’ll discuss our implementation using the Stellar network, which is about a decade old.

<sup>3</sup>Namely, users sign transactions with elliptic-curve cryptography which effect when distributed to peers.

<sup>4</sup>Since investors never share their private keys, only they can digitally sign transfers through a wallet.

<sup>5</sup>Gain or loss derived from SDEX II prices or legacy cost basis communicated in distribution memo.

<sup>6</sup>Investors exit trades by referencing a specific basis tax lot in the memo of a closing private trade.

Once we confirm investor identities, we map them to the given public keys. These public addresses identify investors both internally for compliance and on the Stellar distributed ledger (but without the PII).

## 2.2 Ledger balances as capital books

We can send investors initial shares from an old transfer agent or legacy broker, entirely on Stellar. Once stock assets land in an investor account, they’re free to privately trade with other verified accounts.

That means we no longer reference the Excel spreadsheet from an old agent for reporting, voting, or dividends. Rather, we can now query balances, trade data, and historic votes via the perpetual, immutable decentralized network in real time.

From the investor’s point of view, everything looks like a normal cash account with account balances, positional PNL, and instant settlement.<sup>5,6</sup> But behind the scenes, investors are protected against hidden share lending, trade internalization, and predatory order routing.

Most importantly, all this ownership data stays on the distributed ledger, existing as the public company’s master securityholder file. That means issuers never have to coordinate with middlemen to query investor trends, statistics, or vote responses.

### 2.2.1 Impact

Since anyone can instantaneously create a blockchain wallet, cryptographic signatures satisfy the SEC’s nondiscriminatory transfer requirements. We’d even venture to say that pressing a few buttons on a phone is significantly more equitable than waiting half a day at the bank with two IDs, especially abroad.

Thus, investors not only get their assets instantaneously, but companies also open

up their shares to billions traditionally disenfranchised from direct equity investing. That’s a big deal for growth-seeking investors abroad waiting to compliantly stash their cash in quality stocks without mountains of paperwork and fees.

### **2.3 Proxy voting through memos**

No transfer agent has yet tallied investor votes transparently. Rather, quite the opposite is commonplace. Intermediaries count proxy cards behind closed doors, allocate broker votes arbitrarily, and discard unsatisfactory votes without notice. [9, 10]

We propose an alternative to mailing proxy cards with secret “control number” codes for a black-box voting machine.

#### **2.3.1 General process**

Once voting opens up, we send investors standard proxy notices. But investors use our wallet app to vote instead of dialing a call center or mailing back a postcard.

In the background, we set up a voting address like “demo\*proxyvote.io.” Then, in the app, investors select the company they want to vote for once reading proxy materials. They go through an interface with the voting items, selecting ‘for,’ ‘against,’ ‘abstain,’ or ‘withhold’ for each item, which gets mapped to a memo. If an investor voted for the first four director elections and against the next two propositions, their memo would be “YYYYNN.” Then, they just send 0.0000001

XLM to the voting address with this memo, receiving instantaneous confirmation.

At the meeting, you can simply reconcile vote results from public voting addresses with record-date shareholder balances. Anyone can tally up public transaction memos to verify final counts, and all votes have the same cryptographic security as transfers.

### **2.4 We shouldn’t exclude 7 billion people from investing**

Investors should trade directly through a registered transfer agent rather than the outdated brokerage industry.

Brokers are innately very expensive. Put briefly, if you want to operate a broker, you have to pay for trading and holding broker-dealer registrations, internalization infrastructure, market depository fees, trading data fees, order-routing commitment contracts, clearing agency membership, daily settlement deposit expenses, trade matching documentation, internal controls and audits for fairness, and tons of other costs associated with trusted central order matching.

Subsequently, it makes sense that most brokers don’t want to serve low-value investors abroad. It’s just too costly. But when you transact directly on the books of a public company, you avoid all these operational costs (plus the hidden trading fees ultimately passed on to investors). By replacing an outdated reliance on medallion stamps with modern cryptography, we open investing to anyone, anywhere, anytime.

