



Security Tokens — A Superior Platform for Securities Holding and Trading

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The use of digital securities or security tokens has coincided with the explosion of crypto-currencies and efforts to establish Internet-traded coins or tokens with utility as a form of currency. Lost amidst the enthusiasm over the revolutionary implications of crypto-currencies is the simple fact that security tokens which use blockchain technology and smart contracts have significant advantages over traditional platforms for issuing, holding and trading securities.

Version 0.0: Stock Certificates

Historically, companies provided their equity owners with a physical stock certificate to evidence their share ownership. The owner's name and number of shares are printed on the stock certificate. The stock certificate is authenticated by using a customized form and logo, impressing the company seal, and requiring the signatures of two authorized officers.

Any trading restrictions associated with the shares—whether because of (1) regulatory restrictions imposed in the absence of registration under the Securities Act of 1933, as amended, (2) buy-sell or drag-along provisions under a shareholders or similar agreement, (3) contractual lock-ups, (4) security interests or otherwise—are noted by printing a legend on the certificate alerting prospective purchasers of the restriction. A prospective buyer bears the burden of investigating the nature of the restriction and the risk that the company will not process a transfer of the shares into the buyer's name if the transaction violates statutory, regulatory or contractual restrictions.

The company records the issuance of each new stock certificate in a stock ledger, generally maintained by the company secretary, which reflects all of the transactions involving the company's outstanding shares.

To transfer shares represented by a physical stock certificate, the owner signs a stock power to evidence the transfer. The form of stock certificate will generally have a pre-printed stock power on the back of the certificate, or an owner can sign a stock power separate from the certificate. The stock power confirms the name of the buyer and the number of shares transferred and is signed by the registered owner of the stock certificate. In making the purchase, the buyer is implicitly relying on the legitimacy of the stock certificate and the validity of the signature on the stock power.

The buyer of shares then delivers the stock certificate and the stock power to the issuing company with a request to issue a new stock certificate reflecting the buyer's ownership of the shares. If the stock certificate contains a legend, the buyer may also need to supply a legal opinion from counsel acceptable to the issuing company, confirming that the transfer is permissible under applicable law.

When the issuing company receives a stock certificate, stock power and any legal opinion, it confirms the legitimacy of the certificate against its stock ledger, cancels the certificate, prepares a new stock certificate for the buyer, updates its stock ledger and sends the new stock certificate to the buyer.

If a company is sold, the company typically completes the transaction and deposits the proceeds from the sale into an escrow account. It then sends a form of letter of transmittal to its owners instructing them to complete the form and return it with the stock certificate back to the company. Upon receipt, the company verifies the certificate against their records, cancels the stock certificate and mails a check to the owner for the payment for the owner's shares. If the owner has lost the stock certificate, the owner completes an affidavit of lost certificate, agreeing to indemnify the company for any damages if someone else produces the certificate and claims to be the valid owner. The company may also require that the owner that lost the certificate purchase a bond or insurance to fund the indemnification obligation.

This platform of a central stock ledger and physical stock certificates, while it has been in place for over 100 years, has three significant drawbacks. First, transactions take a long time to process because stock certificates must be signed and delivered to the issuing company, which then validates the transfer, prepares the new certificate and issues it to the buyer. Second, the system is insecure as it relies on the validity of stock certificates and signatures, which can be easily be duplicated or forged. Third, there are attendant costs stemming from the time and effort to maintain a physical stock ledger to check and verify any trading restrictions on shares that are proposed to be sold or transferred and to secure legal opinions on whether the transfer complies with applicable securities laws.

Version 1.0: Book Entry Systems

At the onset of the formation of the public markets, the shortcomings related to trading in physical stock certificates were quickly identified. To address issues related to the lack of speed of historical share transactions, brokerage firms in the United States created the Depository Trust Company as a separate securities repository to hold all of their shares. Under this system, when a brokerage firm acquires shares, it has them registered on the company's stock ledger in the name of Cede & Co. The brokerage firms then maintain a separate set of records in book entry form where they record transactions between their accounts or with other brokerage firms. The system relies on the integrity of the brokerage firms and its book entry system. No stock certificates are exchanged and the brokers do not need to confirm the transactions with the issuing company. The issuing company's stock ledger simply reflects that the shares continue to be owned by Cede & Co.

Brokerage firms are also concerned with the authenticity of stock certificates and the validity of signatures. If an owner has a physical stock certificate and wants to transfer the shares into a broker account, the brokerage firm will first confirm that there are no legal or contractual restrictions on the transfer of the shares and will generally require that the signature on the stock power be accompanied by a "Medallion Signature Guarantee". This guaranty is similar to a notarization by a notary public—a third party acknowledgement that it took steps to verify the identity of the person signing the document. However, as the name suggests, the Medallion Signature Guarantee is a guaranty by the issuing entity that the signature is genuine and that the entity accepts liability for any forgery. Only financial institutions are part of the Medallion Signature Guarantee program. Owners of shares in foreign jurisdictions may have difficulty finding a financial institution that can issue a Medallion Signature Guarantee. Because of the financial risk, financial institutions that are part of the program are reluctant to issue a guaranty unless they have a client relationship or have some other financial incentive to do so.

In the private markets, companies have recognized that issuing physical stock certificates is cumbersome and owners often have difficulty locating them several years later when a transaction or liquidity event has occurred. Consequently, they have adopted the use of book entry systems: they use the stock ledger to record share issuances, but no longer issue stock certificates (unless specifically requested by the owner). Instead, they will issue the owner a receipt confirming the book entry of the shares. Any trading restrictions, legal or contractual, are noted in the stock ledger. Currently, a number of Internet-based vendors offer digital, cloud-based stock ledgers to assist private companies in issuing shares and recording share transactions in a book entry fashion.

In connection with any transfer of shares, the owner and buyer notify the company of the proposed transfer. The company checks for any trading restrictions, records the transfer on the stock ledger, issues a notice to the former owner confirming the cancellation of the ownership position and issues a receipt to the buyer confirming the book entry of the shares. In a sale or extraordinary transaction, there is no need for a letter of transmittal to return a physical stock certificate or to provide an affidavit of lost certificate. Payment can be made directly to the registered owner on the stock ledger.

Book entry systems require the owner to rely on the security and integrity of the system but have advantages over physical stock certificates: namely transactions can be effected more quickly, and there are no physical stock certificates to safeguard.

Version 2.0: Security Tokens

The advent of block-chain technologies has ushered in the next generation platform for holding and trading in securities.

Digital securities or security tokens use a distributed ledger technology in place of, or as a supplement to, the traditional stock ledger. While stock ledgers are privately maintained by the issuing company or a third party vendor via an online, cloud-based digital platform, a distributed ledger publishes an encrypted, anonymized ledger across the internet or other computer network. This decentralizes the validation process: the distributed ledger contains an encrypted list of all securities tokens issuances and can verify that a particular security token is valid and complete a transaction, without having to secure confirmation via a stock certificate or a book entry receipt from the issuing company. Anytime a transaction is completed, the distributed ledgers are updated and synchronized across the computer network to reflect the new ownership.

With a security token, the physical stock certificate is replaced with an ERC-20 or similar “smart contract” which is programmed to link with and operate on the distributed ledger. The security token contains rules-based programming that allows the issuing company to embed legal compliance and stock transfer restrictions directly into the smart contract. Properly programmed, the securities tokens cannot be transferred in violation of securities laws, charter or contractual restrictions. Each time a transaction is attempted, the security token validates itself against the distributed ledger, confirms whether any legal or other restrictions apply, and verifies whether the proposed buyer is qualified to purchase and hold the shares. If the transaction is impermissible—whether, for example, the shares have not been held for a requisite holding period, the company has imposed a lock-up or the purchase is in a restricted trading jurisdiction—the securities token and the distributed ledger will automatically reject and will not process the proposed transaction.

Security tokens have other advantages over stock certificates and book entry systems. Like book entry systems, security tokens eliminate the need to safeguard a physical stock certificate or to prepare and return a letter of transmittal and stock certificate in a sale or extraordinary transaction. Security tokens can also be linked to the owner’s digital wallet or bank account so that dividends and other distributions can be distributed by ACH transfer, rather mailing a check for deposit.

The innate characteristics of securities tokens—self-authentication against the ledger, embedded legal and trading compliance, and no requirements for physical deliveries—simplifies secondary trading and has the potential to increase liquidity for investors in privately held companies while also facilitating trading in a more expeditious and less costly manner. In addition, a buyer of security tokens can be assured that the shares are valid and the transfer complies with legal and contractual restrictions. Lastly, trades can occur directly and seamlessly between owner and buyer in real time.

To support the anticipated demand for secondary transactions in security tokens, a number of brokerage firms and other intermediaries are establishing trading platforms or marketplaces for holders of security tokens to buy and sell in a secondary market. These marketplaces, referred to as Alternative Trading Systems or “ATS’s” are subject to FINRA approval and on-going SEC regulation and oversight. ATS’s for blockchain-based security tokens are still in the development phase and the statutory and regulatory environment will change in the months and years ahead. Because private companies generally do not have the scale of publicly traded companies, the level of trading volume and degree of liquidity is uncertain and can fluctuate drastically in short periods of time. What is clear, however, is that security tokens are enable secondary transactions which can be consummated more securely and less expensively than traditional secondary transactions involving physical certificates or book entry receipts.

Summary

Block-chain, the technology that has fueled the development of crypto-currencies, is the next evolution in platforms for trading equity securities in companies. Securities tokens represented by smart contracts linked with distributed ledgers have several advantages over traditional stock ledgers and certificates as well as book entry systems as a means of holding and trading in securities. Security tokens are recorded in encrypted digital form, so there are no stock certificates to safeguard or to return. Legal and other compliance can be programmed into the security token, reducing the risk of inadvertent violations and minimizing transactions costs. Transfers can be authenticated directly from owners to buyer without the need to secure confirmation form the issuing company. For these reasons, they should be easier to trade, providing investors with an opportunity for increased liquidity. As an added convenience, security tokens can be linked to digital wallets or bank accounts for direct ACH payment of dividends and distributions. In summary, security tokens traded on a blockchain-based digital platform represent the natural evolution of digital, cloud-based book entry stock ledgers and answer the market demand for a more secure, quicker and cheaper means of documenting and verifying share transactions.

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