SECURITY TOKENS:

Current Regulatory and Operational Considerations for Broker-Dealers and a Look Towards the Future

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The information in this Discussion Paper was prepared by the Securities Industry and Financial Markets Association ("SIFMA") and PricewaterhouseCoopers, LLP.

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Note

Please note that capitalized terms not otherwise defined are available in the glossary at the end of the paper. The glossary is not meant to be indicative of any position regarding the final interpretation or definition of the defined terminology.

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1 Executive Summary

The United States has the deepest and most liquid capital markets in the world, facilitating growth and innovation across all industry sectors. Throughout the years, U.S. capital markets have continued to innovate as technology has allowed for profound evolutions in market infrastructure, changing at times the very nature of American financial markets. Over the last few years, Distributed Ledger Technology ("DLT") has rapidly gained interest in the securities industry, including SIFMA and many of its members.

As observers have noted, interest in DLT involves the potential benefit it could bring to the capital market ecosystem and infrastructure. Some benefits that have been described include capital savings through reduced or instantaneous settlement, streamlining of recordkeeping and data reconciliation, and the programmability of a securities asset itself; among many others. DLT has been explored by regulated financial institutions and market infrastructure providers through various pilots and production platforms, researched by regulators, and leveraged by certain market participants exploring innovative ideas around improving transfer of value and development of new types of finance. Financial market participants in particular have started to take an increasing interest in the use of DLT to issue securities and effect securities transactions. This is evidenced by global regulatory authorities issuing licenses to entities servicing digital securities[1]; a few approved Regulation A+ security token offerings ("STOs")[2]; a public company seeking to issue a completely digital dividend[3] that evolved into a courtesy copy being available through a digital format; a proposed trading facility for the listing and trading of a new type of tokenized equity security[4]; and even the first ever effectiveness of a public offering of securities native on DLT in the U.S.[5]

In response to these efforts and the industry's[6] desire to help support innovation, we have prepared this Discussion Paper—the purpose of the paper is twofold. First, it aims to provide a foundational understanding of how DLT and Digital Assets such as Security Tokens interplay with the current securities market. Second, it

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[1] *CapBridge Granted RMO Private Exchange License By MAS; "1exchange" set To Be Among First Regulated Private Securities Exchanges In Global Financial Centre Singapore*, Press Release, CapBridge (Nov. 22, 2018); William Foxley, *Harbor Now Has Both Broker-Dealer and Transfer Agent Licenses in the US*, Coindesk (Nov. 1, 2019); *Securitize Becomes an SEC-registered Transfer Agent*, Finextra (Aug. 21, 2019).

[2] *See* YouNow, Inc., Offering Circular (Form 1-A) (Jul. 12, 2019); *see also* Blockstack PBC, Offering Circular (Form 1-A) (Jul. 11, 2019).

[3] *See* Overstock.com, Inc., Current Report (Form 8-K) (Jul. 30, 2019) (announcing a dividend payable in shares of Overtock.com, Inc.'s Digital Voting Series A-1 Preferred Stock); *see also* Overstock.com, Inc., Current Report (Form 8-K, Exhibit 99.1) (Jul. 15, 2019) (detailing steps on how digital securities, with the ownership and transfer of such securities recorded on a proprietary, blockchain-based ledger, would potentially trade in the marketplace).

[4] BOX Exchange LLC, Notice of Filing of Amendment No. 1 and Order Instituting Proceedings to Determine Whether to Approve or Disapprove a Proposed Rule Change, as Modified by Amendment No. 1, to Adopt Rules Governing the Trading of Equity Securities on the Exchange Through a Facility of the Exchange Known as the Boston Security Token Exchange, Exchange Act Release No. 89536, File No. SR-BOX-2020-14 (Aug. 12, 2020) (hereafter the "Box Filing").

[5] INX LTD., Prospectus (Form F-1) (Aug. 21, 2020).

[6] This includes efforts by central counterparties, central securities depositories such as DTC, broker-dealers, custodians, and investment managers.

endeavors to describe the key challenges faced by U.S. broker-dealers hoping to facilitate the securities lifecycle using this technology and to recommend where regulatory clarity, or amendment, would be helpful in addressing these challenges. SIFMA and its members highlight a number of issues across the lifecycle of a security; however, we believe that the following key issues need to be addressed by stakeholders and regulators for the market to fully develop[7]:

- Whether DLT would be sufficiently robust to act as the registrar or to satisfy industry participants' books and records requirements
- Meeting possession or control requirements (i.e., SEC Rule 15c3-3, "Customer Protection - Reserves and Custody of Securities") when using DLT based systems
- Whether certain parties involved in the clearing and settlement of a transaction require registration as a clearing agency

Although the initial focus of this Discussion Paper is on operationalizing Security Tokens in the existing regulatory and operational frameworks, the securities industry intends to continue to collectively address the changes required to take advantage of the technology. The industry also highlights that in order to preserve the integrity of the markets, there are key safeguards that have been put in place over the past 100+ years that must be maintained. These protections are built around rules for custody and safekeeping of assets, trading and customer protections, and other important areas designed to maintain an expansive, stable, liquid and equitable market structure. SIFMA and its members fully support these protections as well as the robust and competitive marketplace that has evolved from it. In parallel, we also acknowledge that some of the requirements in place may need to be interpreted, or amended, to allow for the industry to take full advantage of this new technology.

SIFMA acknowledges that DLT is in early stages and has therefore focused on the near future state and its potential usage over time. As Security Tokens and their underlying technologies mature, this view will likely need to evolve as the future of the securities market may rely on a DLT platform for a broader range of market functions.[8] To develop this Discussion Paper, SIFMA, in collaboration with its members, organized a series of Working Groups to determine and identify the activities, requirements, and considerations for market participants engaging in operationalizing Security Tokens. SIFMA and its members look forward to continued dialog with regulators and the broader industry to help address these key challenges and work towards a more robust and efficient marketplace leveraging a new technology that has potential to revolutionize the markets.

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[7] Discussion around issues related to security tokens has begun between the industry and among regulators, such as through the July 2019 SEC and FINRA jointly issued statement on security tokens. *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, letter issued by staff, Division of Trading and Markets, U.S. SEC, Office of General Counsel, FINRA (Jul. 8, 2019), *available at* https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities.

[8] This paper does not endorse any particular business model, understanding that the future state may evolve in different directions, creating different models.

2 Introduction

Over the last few years, DLT has experienced a rise in global interest by regulated financial institutions, market infrastructure providers, and market participants looking to explore how the technology could help advance the development of capital formation and improve the transference of value across parties. By and large, the U.S. securities industry is exploring the potential benefits of using DLT, including, but not limited to, using the technology to enhance the speed of issuance and settlement, automate regulatory compliance, increase transparency, integrate programmability into an asset via Smart Contracts, leverage data immutability, and improve trade efficiencies.[9] Regulators have been engaged in the dialogue around these issues, through public statements such as the July 2019 SEC and FINRA jointly issued statement on security tokens[10] and by engaging participants directly in March 2019.[11]

Generally, there are two broad categories of securities that can be represented on a DLT system. First, "Tokenized Securities" are representations on DLT of securities issued on a non-DLT platform, where the underlying securities themselves satisfy the definition of a security under applicable law. Conversely, "Security Tokens" are tokens issued solely on DLT that satisfies the applicable regulatory definition of a security or financial instrument under local law and/or a token that represents on DLT underlying securities/financial instruments issued on a different platform (e.g., a traditional CSD, registrar, etc.), where such representation itself satisfies the definition of a security/financial instrument under local law. There is a subtle, yet distinct, difference between "Tokenized Securities," and "Security Tokens." In the case of Tokenized Securities, although the underlying security itself may satisfy the definition of a security under applicable law, the digital representation of such security may not necessarily be classified as a security separate and apart from the underlying.

Tokenized Securities are representations on DLT of securities issued on a non-DLT platform. Such underlying securities should satisfy the definition of a security/financial instrument under applicable law.	**Security Tokens** are tokens issued solely on DLT and satisfy the applicable regulatory definition of a security or financial instrument under local law / a token that represents on DLT underlying securities/financial instruments issued on a different platform (e.g., a traditional CSD, registrar, etc.), where such representation itself satisfies the definition of a security/financial instrument under local law.

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[9] These benefits may be different depending on the lifecycle of the asset and whether the activity concerns the issuance, trading, or clearing and settlement of the asset.

[10] *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, letter issued by staff, Division of Trading and Markets, U.S. SEC, Office of General Counsel, FINRA (Jul. 8, 2019), *available at* https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities

[11] *Engaging on Non-DVP Custodial Practices and Digital Assets*, letter issued by staff, Division of Investment Management, Commission (Mar. 12, 2019), *available at* https://www.sec.gov/investment/non-dvp-and-custody-digital-assets-031219-206.

Tokenized Securities	Security Tokens
Private company settlement service was granted no-action relief	Initial Coin Offerings
Public company issuer attempting digital dividend with courtesy copy available in digital format	Regulation A+ Security Token Offerings
	Form F-1 Registered Security Offering
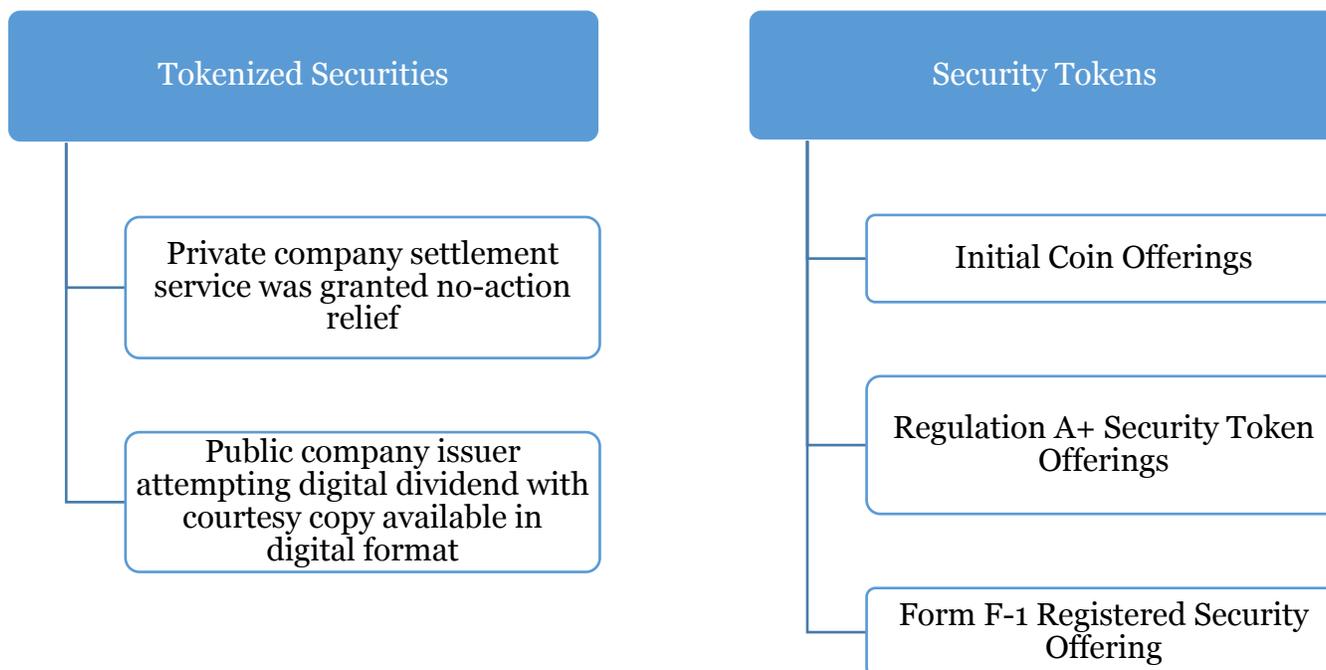
Tokenized Securities and Security Tokens are a type of Digital Asset that should not be confused with other Digital Assets such as utility tokens[12] or Cryptocurrencies[13] (e.g., Bitcoin or Ethereum).

2.1 *Scope, Organization, and Goal*

This Discussion Paper is organized around the lifecycle of a Security Token in our securities ecosystem today, encompassing the following events:

- Issuance;

- Trading;

- Clearing and Settlement;

- Custody and Consumer Protection; and

- Impact on Retail Investors

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[12] *Cf. Chairman's Testimony on Virtual Currencies: The Roles of the SEC and CFTC Before the S. Comm. On Banking, Housing, and Urban Affairs*, 115th Cong. (Feb. 6, 2018) (statement of SEC Chairman Jay Clayton) *available at* https://www.sec.gov/news/testimony/testimony-virtual-currencies-oversight-role-us-securities-and-exchange-commission (stating that "[c]ertain market professionals have attempted to highlight *the utility or voucher-like characteristics* [of their tokens] … in an effort to claim that their proposed tokens or coins are not securities.") (emphasis added).

Further the paper will only focus on "Security Tokens", which:

- Satisfy the applicable regulatory definition of a security under local law; and

- Are SEC-registered (or exempt from registration), equity securities, as defined by U.S. securities laws, eligible to be custodied at a central securities depository ("CSD").[14] [15]

SIFMA and its members hope that this Discussion Paper can be leveraged to foster discussion and to help market participants, regulators, and interested readers become better informed about the issues and considerations raised by the deployment of Security Tokens into the complex securities infrastructure.[16]

2.2 *Key Assumptions of the Securities Token Lifecycle*

As a first step, it is important to understand the lifecycle of a security to ensure that the industry can properly analyze the novel issues raised by Security Tokens in today's existing securities market infrastructure and over time, potentially identify and update specific processes and technology to a new infrastructure.

The following diagram and narrative represent a simplified, illustrative Security Token transaction flow based on current market infrastructure[17]:

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[14] While this paper focuses on equity securities, we recognize that the Security Token model may also be used to support the issuance of other types of securities, such as debt and other fixed income securities and derivatives (both listed options and OTC derivatives such as securities based swaps).

[15] Eligibility to custody securities is governed by the particular requirements a given CSD may have. Where a CSD's current requirements for custody do not accommodate security tokens, we encourage CSDs amend requirements as necessary to allow for them to be custodied.

[16] The Discussion Paper focuses on concerns and issues for broker-dealers engaged in a customer business. There are, however, additional considerations for broker-dealers trading for their own account, such as (1) whether there is a net capital impact (largely dependent on whether the Security Tokens are non-marketable or otherwise viewed as a unsecured receivable); (2) books and records issues (e.g., Exchange Act Rules 17a-3, 17a-4, 17a-5, 17a-13 and FINRA Rule 4160), (3) business continuity planning, disaster recovery and cybersecurity considerations; and (4) potential need for continuing member application if there is a material impact to capital, compliance, supervision or operations.

[17] This chart is provided as an illustration to highlight processes and market participants who may be involved in Security Token transactions. SIFMA and its members does not believe this is the only operating model for these securities; there are current models and potential future models that do not align with this description.

Security Token Lifecycle – Native on the DLT Network
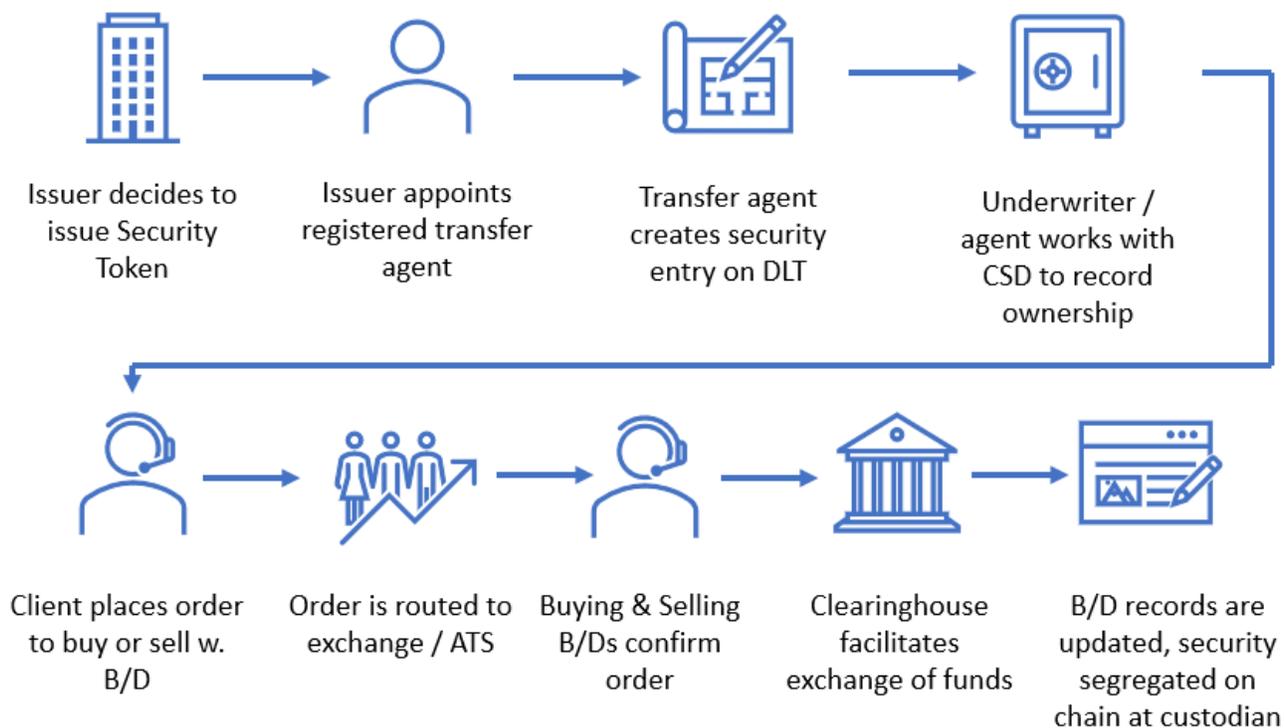
- Step 1: Issuer decides to issue a Security Token, potentially via an intermediary such as a tokenization agent or Transfer Agent that has tokenization abilities.

- Step 2: Issuer or their intermediary appoints a registered Transfer Agent.[18]

- Step 3: Transfer Agent creates a security entry on a DLT platform.

- Step 4: Underwriter or agent either provides a digital master certificate to a CSD, or uses the Direct Registration System ("DRS") or equivalent functionality. CSD records ownership of the Security Token on its books for its participants.[19]

- Step 5: Client places an order to buy or sell a Security Token with a broker-dealer.[20]

- Step 6: Buy or sell order is routed to a registered national securities exchange or ATS that transacts in Security Tokens.

- Step 7: Buying and selling broker-dealers confirm order.

- Step 8: Market utilities will facilitate exchange of funds, as they do today for traditional securities under SEC requirements.

- Step 9: Broker-dealer records are updated to reflect client ownership and Security Tokens are segregated natively on the DLT network at the CSD.

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[18] An issuer may be able to act as its own Transfer Agent.

[19] This is conditioned on the permissibility of the central custodian's rules regarding chain of custody/ownership.

[20] Note that steps 5-8 use current market infrastructure and do not rely on DLT.

Although the above example is aligned with many of the components that exist in current markets, in this model and many of the others that are being contemplated and developed with respect to Security Tokens, the industry sees incremental potential benefits, such as the ability to layer programming to securities, reduce reconciliations, and freeing up capital through the reduction of settlement periods.

3 Security Token Issuance

This section discusses the first phase in the Security Token lifecycle—issuance. This process includes registration (if applicable) by filing appropriate documentation, working with intermediaries or a platform to build a book for distribution and subsequently beginning the dematerialization process, if applicable.

3.1 *Issuance*

First, Security Tokens will need to be registered with the appropriate regulatory authorities or have an exemption from registration under both state and federal securities law, and will need to comply with any applicable distribution regulations. Security Tokens may also require extra care around disclosing risks and key features, via prospectus or other disclosure documents, which are important for the protection of the markets and its investors, including any risks that are particular to DLT technology. Moreover, DLT network protocols and the Smart Contracts accompanying Security Tokens may both also require novel auditing, controls, and disclosures in order to establish and maintain confidence as to the integrity of the assets, similar to how various governance frameworks are leveraged to help ensure technology today functions as intended.

3.2 *Distribution*

Typically, after the registration of securities, the issuer will work with various intermediaries or a platform to build a book for distribution. SIFMA notes that it is critical that these intermediaries and platforms have the required licenses to sell the securities and the right controls in place to ensure know-your-customer and anti-money laundering requirements are followed. Similarly, registered national securities exchanges or broker-dealers and ATSs supporting direct and/or bilateral issuances must also have the required licenses to effect a transaction of the securities in their respective manner.

3.3 *Dematerialization*

Once a book is built or a direct listing is confirmed, the issuer would typically need to appoint a party for initial dematerialization of the security. In traditional markets, this initial dematerialization is performed by an SEC registered Transfer Agent or a CSD. To date, most registered Security Token issuances have followed a similar process with the dematerialization conducted via a tokenization agent or Transfer Agent.

In some Security Token issuances, the Transfer Agent has been directly managing various roles historically managed by the CSD or broker-dealers, including the onboarding of all potential buyers and sellers of the security. Although these issuances present innovative changes in the processing of a security, it will be important for the industry to understand how a Transfer Agent handling Security Tokens can provide adequate evidence to establish

possession or control of the asset by a central custodian that meets applicable regulatory requirements.[21] The Transfer Agent would also need to be comfortable that its activities do not require registration as a clearing agency, or in the alternative, be comfortable with registering as a clearing agency. Establishing good possession or control is fundamentally important to market participants, and regulatory guidance on how to comply with this requirement in a DLT environment will be necessary. Without this, these types of models will limit–and potentially altogether not allow–the key services broker-dealers can provide such as distribution, market making/liquidity, and shorting.

4 Trading

After a Security Token has been issued, for a robust market to develop, the Security Token will also need to be offered through a trading platform with price transparency, robust record keeping, and the ability for those facing the trading platforms to provide best execution. Although attempts at listing and subsequent trading of Security Tokens in a regulatory compliant manner have been limited, the market has seen a few efforts in the space beginning to take shape and potentially offer venues for trading that are complemented with the key features such as transparency and record keeping expected for a safe and liquid market to develop.[22]

4.1   Trading Platforms including Exchanges and ATSs

Just like other aspects of a Security Token's lifecycle, it is critical that trading venues supporting Security Tokens comply with applicable laws, rules and regulations. This will help ensure that there are continued key protections to investors similar to what is found in and has been in place for decades in traditional markets. Some examples include:

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[21] *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, letter issued by staff, Division of Trading and Markets, U.S. SEC, Office of General Counsel, FINRA (Jul. 8, 2019), *available at* https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities (Stating that "[a]s a related matter, the Staffs have received inquiries from broker-dealers, including ATSs, wishing to utilize an issuer or transfer agent as a proposed "control location" for purposes of the possession or control requirements under the Customer Protection Rule. As described to the Staffs, this would involve uncertificated securities where the issuer or a transfer agent maintains a traditional single master security holder list, but also publishes as a courtesy the ownership record using distributed ledger technology. While the issuer or transfer agent may publish the distributed ledger, in these examples, the broker-dealers have asserted that the distributed ledger is not the authoritative record of share ownership. To the extent a broker-dealer contemplates an arrangement of this type, the Division will consider whether the issuer or the transfer agent can be considered a satisfactory control location pursuant to an application under paragraph (c)(7) of Rule 15c3-3"); *Cf.* Sanford C. Bernstein & Co., LLC, SEC No-Action Letter, (Jun. 9, 2009), *available at* https://www.sec.gov/divisions/marketreg/mr-noaction/2009/bernstein090809.pdf (hereinafter "Sanford No-Action Letter") (other industry observers have discussed the applicability of the analysis in the Sanford No-Action Letter, which enumerates a number of conditions where the SEC Division of Trading & Markets recommended no enforcement pertaining to the treatment of certain entities as good control locations for purposes of paragraph (c)(7) of 17 C.F.R. § 240.15c3-3 (hereinafter "SEC Rule 15c3-3") with respect to uncertificated units and uncertificated shares)

[22] This discussion focuses on registered securities; while the core issues under discussion would likely also apply to registration-exempt securities, registration-exempt securities have may have other regulatory considerations that would need to be reviewed.

- Adoption of these assets by retail investors may be more straightforward if retail investors continue to interact with their financial services professional or firm (i.e., broker-dealer, registered investment advisor) via the telephone or electronic order entry systems, who subsequently route the orders to registered national securities exchanges, ATSs or execute in the over-the-counter market on behalf of investors;

- Robust governance, clear definition of rules and responsibilities, mapping of the ecosystem, rules that apply to that trading platform;

- If used, legal validity and auditing of Smart Contracts that facilitate trading platform like functions(similar to how various governance frameworks are leveraged to help ensure technology today functions as intended).

Further, it is important that those issuing Security Tokens understand that existing registered national securities exchanges, ATSs and over the counter markets ("OTC") may need to modify listing standards to allow for the listing and trading of Security Tokens. SIFMA and its members encourage these registered national securities exchanges, ATSs, and OTC venues to critically think about changes in current processes that may impact the way firms operate and its potential to alter the high quality liquid and transparent markets when making any rule or business process changes which may be needed to reflect the unique features of Security Tokens. For instance, a recent registered national securities exchange proposed a rulemaking to move from T+2 settlement to T+0.[23] Although the industry fully embraces and acknowledges the benefits of shortening the settlement time (or even instantaneous settlement), there are significant complexities that not only impact members of SIFMA, but also nearly every service provider currently involved in a security's lifecycle (i.e., how the buy side provides flows and funds their trades on an intraday basis).

As market participants and trading venues define their roles and responsibilities in supporting markets for these assets, the September 25, 2020 SEC No Action Letter to FINRA provides valuable clarity on the scope of ATS regulatory responsibilities when handling Blockchain-based securities.[24] The letter confirmed that the Division staff will not recommend enforcement under Section 15(c)(3) of the Exchange Act and SEC Rule 15c3-3 against broker-dealers operating ATSs offering real time trading of Security Tokens, provided the ATS operates a specified three step process involving a custodian and meets the requirements as described in the letter.[25]

4.2   Price Transparency

Price transparency is key to ensuring investor protection against market manipulation and to promoting market fairness. Federal securities laws include provisions against securities fraud and manipulation and establishes regulations to both promote transparency to securities valuation and transmit key trading information in securities transactions.[26] Certain minimum standards may be needed in order to achieve price transparency of a

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[23] *See* Box Filing, *supra*.
[24] FINRA, SEC No-Action Letter, fn. 3 (Sep. 25, 2020), *available at* sec.gov/divisions/marketreg/mr-noaction/2020/finra-ats-role-in-settlement-of-digital-asset-security-trades-09252020.pdf.
[25] *Id.*
[26] Key regulations in this area include Section 10(b) of the Exchange Act, 17 C.F.R. 240.10b-5, and Section 17(a) of the Securities Act.

Security Token and may need to be developed as the market further evolves. The Security Token market infrastructure will need to provide, at a minimum, the information below to support open and fair markets and benefit investors:

- Independent pricing valuation and verification

- Transparency in size and bid/offer pricing

- Trade reporting

- Daily volumes

4.3 Reporting and Recordkeeping for Trading

In addition to price transparency, securities markets rely on various reporting and recordkeeping standards for trading. As Security Tokens are issued and traded, it will be important that these transactions are reported in accordance with regulatory requirements as they move through the order lifecycle of execution, matching and subsequently clearing and settlement. As Security Tokens mature, and in order to develop a robust market, transactions should be reported via existing regulatory reporting systems. This includes reporting transactions via current regulatory systems such as Order Audit Trail System ("OATS") and Consolidated Audit Trail ("CAT"). Using existing reporting systems provides greater efficiency for market participants and helps support effective regulatory oversight of these new assets.

However, SIFMA and its members also see that one of the greatest advantages of DLT is the ability to improve reporting and record keeping through auditable, streamlined and distributed ledgers that typically accompany DLT platforms. SIFMA welcomes working with the industry to continue to strengthen this integral industry component and realizing a future where this type of reporting is facilitated by DLT or similar technology.

4.4 Best Execution

Broker-dealers and regulators have worked for decades to provide investors and market participants best execution in a fair and equitable manner. SIFMA and its members find it important that as Security Tokens come online and are traded, that mechanisms begin to be developed that allow market makers and liquidity providers to facilitate best execution for consumers and investors. This will help drive market integrity and be in alignment with the spirit of various rules and regulations such as Regulation National Market System ("Reg NMS"). The industry encourages innovators to continue work developing investor trading tools across fragmented market places to help provide best execution.

5 Clearing and Settlement

Post-trade clearing and settlement is an important aspect of the securities trade lifecycle. Establishing clear and unambiguous transfer of ownership and payment with settlement finality is important for the adoption of Security

Token markets and its success. It is important for industry participants to have confidence in the settlement process, transfer of ownership, payment, and books and records reporting.

5.1   Transfer of Assets

With the formation of the DTC as a CSD, most paper certificates were dematerialized with book entry taking the place of physical stock certificates for lower-level intermediaries and beneficial owners. Due to the current key role of CSDs, many financial institutions' operational processes and systems revolve around the CSD model. These utilities also provide various benefits to the industry such as central counterparty ("CCP") netting services, settlement services and risk management of counterparty default.

However, DLT and Security Tokens are beginning to challenge this model with the market observing varying implementation models where DLT is being leveraged as a mechanism to act as the registrar (i.e., ledger of book entry) that can facilitate transfer with or without an intermediary.[27] Although SIFMA and its members can see the benefits of these models, their ability to engage with these structures at scale are limited for multiple reasons. First, due to clearing agency and carrying broker-dealer concerns, there is a lack of regulatory clarity around whether this type of model is permissible. Second, as highlighted above, there are various benefits to all market participants that the industry realizes when leveraging a CSD. In order to scale, any future model will need to contemplate the benefits that CSDs bring to help create an incentive for broader adoption. Third, over the last few decades, U.S. securities markets have developed infrastructure to allow for the secure and efficient transfer of securities and cash between buyers and sellers, with clear definitions of ownership and payment. When leveraging DLT, the industry will need to contemplate how to offer investors the same degree of confidence in the secure and efficient transferability of these securities and cash once purchased.

Even with these challenges, the industry supports these efforts and continues to engage with regulators to provide clarity, and to work with CSDs to explore how they may service Security Tokens via APIs or through other technology, which could allow for innovation but also continue to leverage efficiencies existing in current markets.[28] Exploration and expansion of these types of bridging technologies could potentially enable many of the potential benefits DLT could bring to the securities markets.

5.2   Books, Records, and Reporting

As a security is created, subsequently traded, and then transferred, there are various reporting and reconciliations that are required at each level of intermediation. DLT has the potential to revolutionize these operational and regulatory requirements inherent in the process. However, one area where further clarity is needed is with respect to the application of books, recordkeeping and reporting obligations while using DLT to record and disseminate data. The following section provides a discussion across two particular scenarios:

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[27] One recent example is RealT, the fractional tokenized real estate investment platform, recent launch of a Uniswap incentive program. *RealT's new incentive program, Uniswap, is here*, Property PortalWatch (Feb. 7, 2020), *available at*: https://www.onlinemarketplaces.com/articles/31564-realts-new-incentive-program-uniswap-is-here .

[28] The DTCC has already begun to propose potential frameworks for the digitization of assets and use of DLT in Project Ion, and tokenization of assets to support private markets in Project Whitney. *See DTCC Unveils Proposals to Explore Further Digitalization in the Public & Private Markets*, Press Release, DTCC (May 18, 2020), *available at:* https://www.dtcc.com/news/2020/may/18/dtcc-unveils-proposals-to-explore-further-digitalization .

- Integration of DLT with CSD current reporting systems (custodian records); and

- DLT functioning as the official records for broker-dealers (DLT records).

In both of these scenarios, SIFMA and its members highlight one key impediment to realizing the benefits of DLT—the lack of clarity from the SEC on whether DLT can act as the official books and records for market participants. Specifically, the industry could better evaluate whether DLT can enhance record keeping processes if there was regulatory guidance determining whether DLT can be used to satisfy Exchange Act Rules 17a-3, 17a-4, 17a-5 and 17a-13 requirements, such as by drawing on data pertaining to the security and its holders contained within a DLT network. Due to this, the industry also provides commentary on how to either leverage existing controls or implement new ones that would align with current rules and practice.

5.2.1 Custodian Records

In the first potential scenario, a CSD could work with its members to integrate reporting mechanisms with a DLT platform run by the CSD. For example, if Security Tokens are eligible to be held at a CSD which maintains the ledger of ownership for its members[29] and also facilitates members' connectivity to that ledger, there may be limited impact on operational process and regulatory frameworks that require modification. Said differently, records that each clearing broker receives from the CSD for non-DLT based securities would also include DLT-based security holdings.

5.2.2 DLT Records

In the second scenario, a Security Token ledger could be integrated to serve as a broker-dealer's own books and records. This has the potential to revolutionize the market as it could potentially increase the efficiency of the record keeping functionalities currently performed.[30] However, regulatory guidance or approval of using DLT for the official books and records of a broker-dealer would be necessary. Interpretation of the ability to use DLT in light of the record keeping requirements in Exchange Act Rules 17a-3 and 17a-4, as well as the reporting and reconciliation requirements of 17a-5 and 17a-13, will be necessary, and changes in the current retention requirements for electronic records may be required. This model would also require clarification of how to meet requirements for the responsibility for the protection of customer information.

5.3   Settlement

Although many projects to date have focused on tracking ownership of a security as it is traded and transferred between counterparties, there is potential for additional benefits to be realized if securities are settled using digital forms of money. Integration of digital money on the same "rails" as the security could enable new types of financial products such as smart liquidity management and Smart Contract-enabled corporate events as

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[29] E.g., broker-dealers and custodial banks, who may be owners of the securities themselves, or may hold the securities on behalf of their customers that are the beneficial owners of the securities.

[30] J. Christopher Giancarlo and Bruce Tuckman, *Swaps Regulation Version 2.0 An Assessment of the Current Implementation of Reform and Proposals for Next Steps*, Whitepaper, CFTC (Apr. 26, 2018), *available at*: https://www.cftc.gov/sites/default/files/2018-04/oce_chairman_swapregversion2whitepaper_042618.pdf (CFTC Chairman, J. Christopher Giancarlo, and CFTC Chief Economist, Bruce Tuckman, suggest that the "[b]lockchain will most likely be adopted for reporting and recordkeeping in financial markets when individual firms discover utilities that decrease operational and expense burdens and present a viable return on investment").

operational and lifecycle processes can be streamlined and automated. DLT also has the potential to revolutionize settlement times—depending on how a system is structured, it has the potential to reduce the funding required to be held intraday and the costs associated with margin held at central custodians or by other parties in the settlement cycle.

Additionally, in a future state, Smart Contracts may be implemented with a third-party payment system on a DLT network to facilitate the transfer of funds in connection with Security Token transactions. The Smart Contract could initiate the associated transactions natively within the DLT network if and only if payment is received. This feature could be integrated with tools such as a fiat-backed stable coin or a proprietary token to prefund wallets to facilitate transactions. There is also an opportunity to explore how these processes could be connected with potential future central bank digital currencies ("CBDC").[31]

Although SIFMA and its members acknowledge these benefits, there are also some core functions in the way current markets settle trades that need to be considered as settlement is redesigned. Some of these considerations include:

- The ability for firms to net activity intra-day to reduce funding required for each trade; as well as settlement services and risk management of counterparty default

- The impact of potential disintermediation of clearing agencies or how these organizations can integrate their services into these models;

- As noted above, as markets allow for faster settlement than T+2, firms need to consider that more pervasive T+1 or even T+0 settlement not only impacts broker-dealers, but also the buy side and many other stakeholders who provide services during the security life-cycle.

SIFMA and its members welcome working with the broader industry to think through potential designs and solutions to help address the above considerations within a DLT network.

5.4   Potential Future Innovations in Clearance and Settlement

Some Security Tokens have been proposed that enable bilateral clearing (mainly peer-to-peer with future prospects for broker-dealer-to-broker-dealer),[32] thereby potentially modifying or eliminating the role of CCPs and CSDs. SIFMA and its members want to highlight that since the financial crisis, regulators and the broader industry have made an effort to leverage these central counterparties and CSDs as key stakeholders in the reduction of risk and as crucial intermediaries in the event of a crisis such as during an insolvency of a member firm.[33] These efforts

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[31] A number of central banks have been exploring this area and carrying out proofs of concept and other explorations in this area, including the US Federal Reserve (https://www.federalreserve.gov/econres/notes/feds-notes/comparing-means-of-payment-what-role-for-a-central-bank-digital-currency-20200813.htm), Sweden (https://www.riksbank.se/en-gb/payments--cash/e-krona/), and the Monetary Authority of Singapore (https://www.mas.gov.sg/schemes-and-initiatives/Project-Ubin).

[32] INX LTD., Prospectus (Form F-1) (Aug. 21, 2020).

[33] A historical example can be seen in LCH Clearnet's interactions with Lehman Brothers. *How LCH Clearnet got clear of Lehman*, Wall Street Journal (Oct. 14, 2008), *available at* https://www.wsj.com/articles/SB122392821573229759 .

were undertaken to strengthen the broader financial markets and ultimately protect consumers and investors. SIFMA and its members find it important to continue to find ways to leverage DLT systems while integrating these types of risk reducing intermediaries or for innovators to work with the industry to develop processes that produce similar outcomes as to what these utilities provide.

In July 2019, the SEC and FINRA jointly issued a statement[34] highlighting that broker-dealers could provide services related to digital securities. In this model, the broker-dealer could act as agent on transactions, specifically a broker-dealer could match a buyer and seller and step out of the clearing and settlement process. However, SIFMA and its members highlight that this type of model could lead to the elimination of the netting process currently in place with a CCP/CSD model. The netting process provides enormous benefit to the industry while reducing risk on an intraday basis from the financial markets. SIFMA and its members again encourage the SEC to engage with the industry on rules related to broker-dealer custody and how these services can be provided in a similar function as today to continue to reduce risk in the development of future financial systems.

5.5   *Decentralized Clearing and Settlement*

To date, the clearing and settlement and custody processes for securities have been handled by intermediaries with responsibility for various processes. For certain Security Tokens, because DLT could allow them to be traded and moved without intermediaries in a decentralized manner, there are novel questions on the governance and assignment of roles and responsibilities in this new, more decentralized paradigm that would need to be addressed. Accordingly, the potential future development of decentralized clearance and settlement models will require further regulatory clarity on a range of issues, including the following areas: authenticity of Security Tokens, custody of the asset and of private keys, disputed/amended transactions, rehypothecation, access to books and records, and auditing and possibility of instantaneous settlement, among others. In addition, the treatment of how security interests can be created and perfected would need to be reviewed under state laws and state commercial codes. We would continue to encourage innovators and the industry to increase their focus on how to reduce risk and costs for issuers, investors and end consumers.

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[34] *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, letter issued by staff, Division of Trading and Markets, U.S. SEC, Office of General Counsel, FINRA (Jul. 8, 2019), *available at* https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities

6 Custody and Customer Protection

6.1 Possession or Control, Rehypothecation and Securities Lending

Pursuant to the Securities Exchange Act of 1934, broker-dealers are required to meet certain financial responsibility requirements. These requirements are intended to protect customers from the potential failure of a broker-dealer by requiring the safeguarding and segregation of customer cash, fully paid securities, and excess margin securities held by the broker-dealer. More specifically, SEC Rule 15c3-3, "Customer Protection - Reserves and Custody of Securities", protects customers' fully paid securities and excess margin securities by requiring the broker-dealer to promptly obtain and maintain possession or control of such securities carried for the account of customers. Such securities must be held in a good control location free of any third-party liens. The elements of satisfying "good control" address the focus of regulators that in a broker-dealer insolvency, the assets of customers can easily be identified, isolated, protected and potentially transferred in a speedy and efficient manner."[35]

Today, custody generally works with the following structure:

1. Transfer agent creates shares on behalf of the issuer (e.g., Transfer Agent creates 100 shares on its books and records);

2. Transfer agent allocates ownership of shares to central securities depository (e.g., DTC's nominee is now noted as owner of 100 shares on the Transfer Agent's books and records);

3. CSD book-entries in street name the ownership of its members as transfers are facilitated (e.g., DTC book-entries that broker-dealer 1 owns 50 shares and broker-dealer 2 owns 50 shares);

4. Each member of the CSD subsequently book-entries ownership across each of its clients (e.g., broker-dealer 1 has five clients who own 10 shares each); and

5. In some instances, clients of the member may also book-entry ownership (e.g., client of broker-dealer 1 allocates five shares each across two clients).

It is important to note that within these layers, each party has its own requirements related to custody and safe-keeping of their clients' shares. And, each layer also can have an impact on the subsequent layer and its feasibility to demonstrating how a broker-dealer can custody Security Tokens in alignment with the spirit of the SEC's requirements. For instance, one of the key factors of good control is that an insolvent broker-dealer, or a trustee appointed by the Securities Investor Protection Corporation for such broker-dealer's estate, be able to quickly take control, and potentially transfer to another broker-dealer, the customer property of the insolvent broker-dealer. These types of considerations are critical as the industry contemplates future Security Token models.

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[35] E.g., that no third-party liens exist over the account other than to secured fees and expenses of the custodian with respect to that account, that the account only hold customer securities, that securities can be transferred without payment of money or value, that the account be named to indicate it is an account for the broker-dealer's customers, among other qualifications. SEC Rule 15c3-3.

Many of the services that require broker-dealer custody are essential for a robust Security Token market that is liquid, transparent, and fair to develop. To date, the SEC has offered no guidance indicating that broker-dealers cannot perform custody of Security Tokens. This has rendered nearly all services where a broker-dealer requires custody impracticable. For example, in a fully paid purchase by a customer of a security, if a broker-dealer cannot hold that security in a good control location, it cannot provide custody under SEC Rule 15c3-3. Additionally, a broker-dealer cannot provide margin financing or easily facilitate short trading without being able to custody the securities. Such processes would need to be re-examined if broker-dealers cannot act as custodians. Due in part to this lack of regulatory guidance, projects have had to leverage bespoke issuance and trading models that have scalability challenges and can potentially introduce more risk to investors.

Broker-dealers' services facilitate an efficient market and allow their customers to take views on both sides of an asset. For example, as discussed above, broker-dealers must segregate fully paid and excess margin securities they hold on behalf of their customers. Broker-dealers satisfy their possession or control requirement by holding securities in specific accounts at central securities depositories or sub-custodians that are deemed "good control locations." Other securities held by the broker-dealer, representing proprietary positions and customer margin securities that may be rehypothecated are generally held in a separate clearance account.

In summary, any Security Token structure will require a party or some type of mechanism that can provide two things to the market:

1. The ability to easily identify assets that are held by broker-dealers for customers (and ensure such assets are not subject to any third-party liens); and

2. Upon insolvency of the broker-dealer, the ability to transfer those assets as needed to another broker-dealer.

There are a variety of mechanisms that may enable this in a DLT-based network. Some ideas could include functionality where a CSD or custodian is able to take control of a broker-dealer's assets or allowing the CSD or custodian to have administrator access to an asset's Smart Contract that allows the party to perform certain functions with the asset—among others. In July 2020, the OCC issued interpretive guidance confirming national banks' and Federal savings associations' authority to provide custody to Cryptocurrencies, including "by holding the unique cryptographic keys associated with Cryptocurrencies."[36] Notably, SEC Rule 15c3-3(c)(5) states that "securities under the control of a broker or dealer shall be deemed to be securities which… [a]re in the custody or control of a bank." Accordingly, there may be an opportunity for the SEC to clarify whether the OCC's analysis applies to securities that leverage the same foundational technologies as Cryptocurrencies. SIFMA and its members encourage continued engagement to work towards a model that aligns with the spirit of the rules and protects end customers of broker-dealers.

6.2   Corporate Actions

When handling corporate actions for Security Tokens in a DLT environment, distributions would be made to holders of record according to an ownership log or ledger. For example, if a broker-dealer maintains multiple customer accounts but holds one Wallet address (similar to an omnibus account structure), dividends and interest

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[36] OCC Interpretive Letter No. 1170 (Jul. 22, 2020), *available at*: https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/int1170.pdf.

would be delivered to that address and the broker-dealer would distribute the dividend or interest amongst all their customer accounts, similar to what occurs today. Processes will need to be in place for broker-dealers to transfer or claim to/from other broker-dealers dividends or interest paid on behalf of customers that were owners of record on record date but who have transferred their accounts prior to payable date. Systems and processes for handling Security Tokens will also need to take into account how to allow for the exercise of investor rights (i.e., proxy voting or elections).

6.3   Cyber Security, Theft and Liability Mitigation

Investor protection includes building the right protection against cyber threats and to guard against the risk of lost or stolen securities.

Fundamentally, any use of a Security Token will require a system that has integration with a DLT network data structure. Regardless of the security of the DLT network itself, there are a number of risks associated with the implementation of APIs that enable assets to be used digitally. Best practices regarding cybersecurity should be followed in order to secure the safety of investor assets. The U.S. National Institute of Standards and Technology ("NIST") Cybersecurity Framework is recommended as an important resource regarding best practices.[37]

In addition to baseline best practices for cybersecurity which users of Security Tokens should be following, market participants should focus on specific cyber risk management considerations unique to DLT environments. Interoperability, cryptographic, identity, and consensus models are key features to be considered when developing appropriate application of security for DLT environments. Market participants will need to develop the appropriate cyber and risk controls to secure the full range of operational processes specific to DLT environments. This analysis should reflect the unique risk factors associated with each step involved in the Digital Asset transaction.

Market participants should also consider the unique cybersecurity issues associated with cryptographic strategies that support the generation of new blocks, keys, digital signatures, and the subsequent verification of those digital signatures.

Security Token market infrastructure should ensure a level of user identity verification in line with the digital identification and security processes needed to support identity management, authentication and authorization.

In addition to addressing broader cyber security issues, Security Tokens would likely be subject to Exchange Act Rule 17f-1, Lost and Stolen Securities Program, which requires every broker-dealer to report to the Commission or its designee, and to a registered transfer agent for the issue, the discovery of the theft or loss of any securities certificates where there is substantial basis for believing that criminal activity was involved. A standard security level identifier such as CUSIP/ISIN will be needed to track assets on an individual basis. Checks and balances would be required to ensure assets were being stored properly and sent to the correct Wallet. In the case that a custodian or party becomes aware of a lost, or counterfeit asset, it would need to be reported to the proper authority. It is essential that services are designed to include the appropriate safeguards to ensure Security Tokens are protected per Exchange Act Rule 17f-1 and other applicable requirements. There would also need to be a mechanism for the

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[37] *Framework for Improving Critical Infrastructure Cybersecurity,* Nat'l. Inst. Of Standards and Tech., Version 1.1 (Apr. 16, 2018), *available at*: https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf

replacement of lost or stolen security tokens. For example, a Transfer Agent enabled to issue Security Tokens, upon affidavit and/or indemnification, could potentially destroy the original Security Tokens and issue new ones as a replacement. Additionally, it will be necessary to clarify where responsibilities lie for platform governance of DLT infrastructure, such as for the protection of non-public personal information.

6.4   Auditing Standards

Broker-dealers are subject to independent audits that require evidence of asset existence and proper valuation. In the case of Security Tokens, their valuation must be fairly stated and if the security has not been encumbered, the broker-dealer must prove that the security is not subject to a lien. The American Institute of Certified Public Accountants ("AICPA") formed a working group focused on "developing non-authoritative guidance for financial statement preparers and auditors on how to account for and audit digital assets under U.S. generally accepted accounting principles and generally accepted auditing standards, respectively."[38] The industry could draw on the guidance to the audit industry provided by the AICPA as well as updates to industry audit guidelines as they are released, such as their Practice Aid for the Accounting for and Auditing of Digital Assets.[39] As these standards are developed, the industry will need to incorporate them into current regulatory reporting requirements, such as Exchange Act Rule 17a-5.

6.5   SIPC Coverage

Securities Investor Protections Corporation ("SIPC") coverage was created pursuant to the Securities Investor Protection Act ("SIPA") of 1970 to ensure customer protections in the case of an insolvent broker-dealer. Because the SIPA and the SEC definitions of "security" are different, some Security Tokens may not be deemed securities under SIPA.[40] Arguably, Security Tokens that are DTC eligible, registered with the SEC, and are handled by a SEC-registered Transfer Agent may be eligible for SIPC coverage. For Security Tokens that are not eligible for SIPC coverage, disclosures must be made to investors detailing the risks of investing in these types of Security Tokens. In order for there to be widespread investor adoption of Security Tokens, investors' accounts and assets must be protected. Incorporating Security Tokens, to the extent they are not already covered, into the protections provided by the SIPC will be important to safeguard investors, just as they are now with current securities assets subject to SIPA.

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[38]   *Accounting   for   and   Auditing   of   Digital   Assets*,   Practice   Aid,   AICPA   (2020),   *available   at:* https://www.aicpa.org/content/dam/aicpa/interestareas/informationtechnology/downloadabledocuments/accounting-for-and-auditing-of-digital-assets.pdf
[39] *Id.*
[40] For example, the SIPA definition of "security" does not include investment contracts that are not registered with the SEC. *See* 15 U.S.C. §78aaa-lll(14) (as amended through Jul. 22, 2010), *available* at https://www.sipc.org/about-sipc/statute-and-rules/statute#78lll(14).

7 Impact on Retail Investors

As market participants consider how Security Tokens may be adopted by their customers, they should bear in mind how their retail clients may handle security tokens. By and large we should view Security Tokens like any other security, including availability for retail clients where suitable. In addition, Security Tokens would be available to retail investors only through registered broker dealers, just as other securities are. However, there are a number of areas where market participants should review how the unique features of Security Tokens would fit into the regulatory and compliance frameworks which shape how retail investors would interact with these assets.[41]   At a high level, some considerations are outlined below, including suitability and disclosure requirements, the transferability of security tokens, valuation, cost basis and tax treatment, and the SIPC coverage.

7.1   Suitability and Disclosure Requirements

Issuers will need to consider novel risk disclosures in their initial and periodic disclosure filings with the SEC and other Self-Regulatory Organizations ("SROs"). Broker-dealers will need to consider the suitability of Security Tokens in their disclosure to retail investors. In particular, firms should consider what disclosures may be appropriate in light of the unique technological characteristics of Security Tokens or in cases where the token was obtained without action by the investor, such as through a digital dividend issuance. To the extent Security Tokens are unable to demonstrate certain key characteristics associated with transparent and liquid markets, it will be imperative to note in disclosures applicable limitations related to accessibility (e.g., limited accessibility to the platform, restrictions on trading away from the financial provider they work with, and/or constraints on ability to realize gains), transferability, price transparency, liquidity, restrictive holding periods , and other pertinent risk factors. Disclosures may also be necessary for areas where the use of DLT may create end user considerations, such as latency of DLT networks, impacts on settlement finality and privacy if using public DLT networks. SIFMA and its members stress the importance that issuers remain transparent on their expectations around the particular asset, including related to whether the asset may be illiquid at certain points and in certain markets.

7.2   IRA Custodian Accounts

With respect to Individual Retirement Accounts ("IRA") accounts, there are a number of additional considerations related to demonstrating proper control may require special considerations in addition to the broader Rule 15c3-3 requirements as discussed above. Security Tokens owned by IRA accounts that are not held by or in the control of an IRA custodian bank or an approved non-bank IRA custodian may be subject to unanticipated tax implications. Investors would need to consider whether Securities Tokens are held under the tax ID of the IRA custodian, and if not, what the tax implications would be. Going forward, the industry should consider how to prevent unintended tax impacts on investors arising from an inability to establish proper control of Security Tokens, which may include working with the IRS to obtain guidelines for control.

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[41] When considering IRAs, pension accounts, and retirement accounts, it will need to be determined whether there are any legal or statutory restrictions that would prevent a retail customer from holding Security Tokens in these types of accounts.

7.3   Security Token Transferability

It is crucial that a central marketplace demonstrates accessibility and transferability for market participants. If overly complicated, it may prevent retail investors from investing in these assets. To ensure transferability, Security Tokens should be able to be easily bought and sold, transferred to other participants (e.g., broker-dealers, investors) and settled to receive proceeds. Therefore, it is important that broker-dealers with retail clients should assess the potential impacts of Security Token market structure on clients. For example, the inability to transfer the security may result in an unintended taxable event for retail investors, such as if an IRA custodian is unable to custody a Security Token, making a distribution from the IRA account necessary.

If a decentralized Security Token infrastructure develops, the ability to operate between multiple platforms becomes increasingly important to ensuring easy access to markets for retail investors, potentially supported by common standards for token and platform architecture.

7.4   Valuation including Price Transparency

Valuation and price transparency are important to support issuance and trading of Security Tokens and the development of a robust marketplace. If the markets for Security Tokens do not have the same levels of price transparency and support for objective valuations, retail broker-dealers and/or IRA custodians will need to assess what impacts the lack of clear pricing will have on their obligations to retail clients.

7.5   Cost Basis and Tax treatment

Because Security Tokens reflect usage of new technology to reflect traditional securities, we anticipate that the recording of cost basis of Security Tokens should be no different than how traditional securities are handled, and their tax treatment should be similar as well. This applies to all holders of Security Tokens, not just retail investors.

8 Conclusion

Security Tokens and related DLT are attracting increasing interest in the securities industry. This Discussion Paper has highlighted certain factors that broker-dealers and the industry should consider as Security Tokens evolve in order to ensure they can meet their regulatory, operational, and investor protection obligations. This Discussion Paper identifies several key areas that broker-dealers and industry participants wanting to transact in Security Tokens should consider with respect to existing regulatory obligations under SEC and FINRA rules and regulations, including but not limited to, the Customer Protection Rule (i.e., SEC Rule 15c3-3), Reg NMS requirements, books and records and financial reporting requirements, suitability rules, and SIPA protection. As explored in this paper, many of the concepts and regulatory frameworks that govern current security markets may be extended to Security Token markets with certain modifications. We however note that many of the legal issues are still yet to be resolved, as market participants, regulators and legislators continue to learn about and understand the use case for Security Tokens and DLT.

As the industry moves forward with the broader adoption of Digital Assets and their supporting technology, we believe that the areas below will require further dialogue between industry participants and regulators. Effective

resolution of these questions will help support the further growth of the markets for the Security Tokens and the adoption of the technology that supports them.

- Whether DLT would be sufficiently robust to act as the registrar or to satisfy industry participants' books and records requirements

- Determining the standards to which possession or control requirements (i.e., SEC Rule 15c3-3, "Customer Protection - Reserves and Custody of Securities") when using DLT-based infrastructure can be successfully complied with

- Whether certain parties involved in the clearing and settlement of a transaction require registration as a clearing agency (i.e. transfer agents)[42]

SIFMA and its members look forward to working with regulators, infrastructure providers, and other market participants to explore what changes would allow the evolution of Security Token markets in a manner which will retain the security, market quality, and investor protections essential to capital markets.

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[42] For example, several recent filings by security token market participants (i.e. Blockstack Token LLC and YouNow Inc. raise the question of what activities require registration as a clearing agency under the Exchange Act, with the filing organizations noting that they do not believe their activities are not clearing agencies because the because the types of activities they engage in are not those described in the definition of a clearing agency, and stating their view that to the extent that these activities occur on the blockchain, the blockchain is not a "person" that would be required to register. See Blockstack Token LLC Reg A filing (April 11, 2019) *available at* https://www.sec.gov/Archives/edgar/data/1719379/000110465919020748/a18-15736_1partiiandiii.htm & YouNow Inc. Reg A filing (June 19, 2019), *available at* https://www.sec.gov/Archives/edgar/data/1725129/000162827919000230/younow1a.htm

9 Glossary

Glossary		
Term	Acronym	Description
Alternative Trading System[43]	*ATS*	An ATS is a trading system that meets the definition of "exchange" under federal securities laws but is not required to register as a national securities exchange if the ATS operates under the exemption provided under Exchange Act Rule 3a1-1(a).
Application Programming Interface[44]	*API*	An application programming interface "API" is a set of subroutine definitions, protocols, and tools for building software and applications.
Blockchain[45]	*---*	A blockchain is a type of Distributed Ledger Technology that records all transactions in the network in theoretically unchangeable, digitally recorded data packages called blocks. Each block contains a batch of records of transactions, including a timestamp and a reference to the previous block, linking the blocks together in a chain. The system relies on cryptographic techniques for secure recording of transactions.
Central Bank Digital Currency[46]	*CBDC*	Digital form of money that represents a liability of a central bank in a single fiat sovereign currency that may or may not pay interest.
Central Securities Depository[47]	*CSD*	A CSD provides securities accounts, central safekeeping services and asset services, which may include the administration of corporate actions and redemptions, and

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[43] *Alternative Trading System ("ATS") List*, SEC, *available at:* https://www.sec.gov/foia/docs/atslist.htm

[44] *See IOSCO Research Report on Financial Technologies (Fintech)*, IOSCO, p. 39 (Feb. 2017), *available at:* https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf.

[45] *See U.S. v. Zaslavskiy*, 1:17-cr-00647 (E.D.N.Y. Sept. 11, 2018) fn. 2 at 7, *available at:* https://www.sec.gov/litigation/complaints/2017/comp-pr2017-185.pdf.

[46] GFMA *Proposed Approach for the Classification and Understanding of Crypto-Assets* (May 2020)*, available at:* https://www.gfma.org/wp-content/uploads/2020/04/gfma-bcbs-prudential-crypto-assets-final-consolidated-version-20200427.pdf

[47] Morten Linnemann Bech, Jenny Hancock and Amber Wadsworth, *Central Securities Depositories and Securities Settlement Systems* BIS Quarterly Review, BIS (Mar. 1, 2020), *available at:* https://www.bis.org/publ/qtrpdf/r_qt2003y.htm

Glossary		
Term	Acronym	Description
		plays an important role in helping to ensure the integrity of securities issues (that is, to ensure that securities are not accidentally or fraudulently created or destroyed or their details changed) .
Committee on Uniform Securities Identification Procedures Number[48]	*CUSIP Number*	CUSIP stands for Committee on Uniform Securities Identification Procedures. A CUSIP number identifies most financial instruments, including: stocks of all registered U.S. and Canadian companies, commercial paper, and U.S. government and municipal bonds. The CUSIP system facilitates the clearance and settlement process of securities.
Cryptocurrencies[49]	---	A type of digital asset that utilizes DLT and cryptographic techniques to allow remote peer-to-peer transfer of value in the absence of trust between contracting parties and without a centralized trusted authority.
Digital Asset[50]	---	An asset that is issued and/or transferred using distributed ledger or blockchain technology, including, but not limited to, so called "virtual currencies," "coins," and "tokens." A digital asset may or may not meet the definition of a "security" under the federal securities laws.
Direct Registration System[51]	*DRS*	The Direct Registration System enables investors to elect to hold securities in book entry form as an alternative to holding securities in certificate or "street" form. With DRS, the investor does not receive a physical certificate, instead receiving periodic account statements (at least yearly) from the Transfer Agent or issuer evidencing holdings. Through

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[48] *CUSIP Number,* Fast Answers, SEC, *available at:* https://www.sec.gov/answers/cusip.htm#:~:text=CUSIP%20stands%20for%20Committee%20on,U.S.%20government%20and%20municipal%20bonds.

[49] *See* Morten Bech & Rodney Garratt, *Central bank cryptocurrenices,* BIS Quarterly Review, BIS, p. 57-58, fn5 (Sep. 17, 2017), *available at:* https://www.bis.org/publ/qtrpdf/r_qt1709f.pdf.

[50] FINRA, SEC No-Action Letter, fn. 3 (Sep. 25, 2020), *available at* sec.gov/divisions/marketreg/mr-noaction/2020/finra-ats-role-in-settlement-of-digital-asset-security-trades-09252020.pdf.

[51] Direct Registration System, DTCC, available at: https://www.dtcc.com/settlement-and-asset-services/securities-processing/direct-registration-system

Glossary		
Term	Acronym	Description
		DTC's DRS Service, assets can be electronically transferred to and from the transfer agent and broker/dealer to easily move shares in and out of DRS.
Distributed Ledger Technology[52]	*DLT*	A distributed ledger is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, and/or institutions. Distributed Ledger Technologies are technologies used to implement distributed ledgers.
Exchange Act	---	Shorthand reference to the U.S. Securities Exchange Act of 1934
Financial Industry Regulatory Authority[53]	*FINRA*	A self-regulatory organization authorized by Congress to protect investors by writing and enforcing rules governing the activities of the U.S. registered broker-dealers and examining for compliance with those rules.
Internal Revenue Service[54]	*IRS*	The United States Internal Revenue Service is the federal tax collection agency administering the Internal Revenue Code enacted by the United States Congress.
International Securities Identification Number[55]	*ISIN*	An International Securities Identification Number is a code that uniquely identifies a specific securities issue.
Office of the Comptroller of the Currency[56]	*OCC*	The Office of the Comptroller of the Currency is an independent bureau of the U.S. Department of the Treasury. The OCC charters, regulates, and supervises all national banks, federal savings associations, and federal branches and agencies of foreign banks.

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[52] *See IOSCO Research Report on Financial Technologies (Fintech)*, IOSCO, p. 47 (Feb. 2017), *available at:* https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf

[53] FINRA, https://www.finra.org/#/

[54] *About IRS,* IRS, https://www.irs.gov/about-irs

[55] *About International Securities Identification Number,* ISIN, https://www.isin.org/isin/..

[56] *Who We Are,* OCC, https://www.occ.gov/about/who-we-are/index-who-we-are.html

Glossary		
Term	Acronym	Description
Securities Act	---	Shorthand reference to the U.S. Securities Act of 1933
Securities Investor Protection Corporation[57]	*SIPC*	A federally mandated, non-profit, membership, United States corporation created under the Securities Investor Protection Act ("SIPA") of 1970 designed to protect the customers of brokers or dealers subject to the SIPA from loss in case of financial failure of the member.
Security Token[58]	---	For the purposes of this paper, a Security Token is defined as: a token issued solely on DLT that satisfies the applicable regulatory definition of a security or financial instrument under local law; and/or a token that represents on DLT underlying securities/financial instruments issued on a different platform (e.g., a traditional CSD, registrar, etc.), where such representation itself satisfies the definition of a security/financial instrument under local law.
Self-Regulatory Organizations[59]	*SROs*	A self-regulatory organization is an entity such as a non-governmental organization, which has the power to create and enforce stand-alone industry and professional regulations and standards on its own. In the case of financial SROs, such as a stock exchange, the priority is to protect investors by establishing rules, regulations, and set standards of procedures which promote ethics, equality, and professionalism.
Smart Contract[60]	---	A smart contract is a computer program that follows pre-defined, pre-written rules to self-execute. The computer program is pre-written logic stored in, and executed by the nodes in a DLT network.

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[57] *Mission,* SiPC, https://www.sipc.org/about-sipc/sipc-mission
[58] GFMA *Proposed Approach for the Classification and Understanding of Crypto-Assets* (May 2020)*, available at:* https://www.gfma.org/wp-content/uploads/2020/04/gfma-bcbs-prudential-crypto-assets-final-consolidated-version-20200427.pdf
[59] Adam Hayes, *Self-Regulatory Organization – SRO Definition*, Investopedia (Apr. 3, 2020), *available at*: https://www.investopedia.com/terms/s/sro.asp
[60] *See IOSCO Research Report on Financial Technologies (Fintech)*, IOSCO, pp. 51-52 (Feb. 2017), *available at:* https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf.

Glossary		
Term	Acronym	Description
The Depository Trust Company[61]	*DTC*	The DTC is organized as a limited purpose trust company and provides safekeeping through electronic recordkeeping of securities balances. The DTC provides clearing and settlement efficiencies by immobilizing securities and making "book-entry" changes to ownership of the securities.
The Securities and Exchange Commission[62]	*SEC*	The SEC is an agency of the U.S. Federal government. Its primary mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.
The Securities Industry and Financial Markets Association[63]	*SIFMA*	SIFMA is the leading trade association for broker-dealers, investment banks, and asset managers operating in the U.S. and global capital markets. SIFMA advocates on legislation, regulation and business policy, affecting retail and institutional investors, equity and fixed income markets and related products and services. SIFMA serves as an industry coordinating body to promote fair and orderly markets, informed regulatory compliance, and efficient market operations and resiliency.
Tokenized Security	---	For the purposes of this paper, a tokenized security is defined as a token issued on a DLT platform which represents underlying securities issued on a non-DLT platform or manner, where the underlying security itself satisfies the definition of a security or investment contract under applicable law.
Transfer Agent[64]	---	Transfer agents record changes of ownership, maintain the issuer's security holder records, cancel and issue certificates, and distribute dividends. In some cases, an issuer acts as its own transfer agent.

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[61] *About DTCC,* The Depository Trust Company, DTCC, *available at*: https://www.dtcc.com/about/businesses-and-subsidiaries/dtc

[62] *About the SEC,* SEC, https://www.sec.gov/

[63] *About*, SIFMA, https://www.sifma.org/

[64] *Transfer Agents,* SEC, *available a*t: https://www.sec.gov/divisions/marketreg/mrtransfer.shtml

Glossary		
Term	Acronym	Description
Wallet[65]	---	A wallet is an address, defined by its public key, which can send and receive related Digital Assets. It is secured by a private key which may only be known by the wallet owner and must be used to sign a transaction before it can be sent.

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[65] *See Issues, Risks and Regulatory Considerations Relating to Crypto-Asset Trading Platforms,* Final Report, Bd. of the Int'l Org. of Sec. Comm'ns, p. 12 (Feb. 2020), *available at*: https://www.iosco.org/library/pubdocs/pdf/IOSCOPD649.pdf (while the original text references "crypto-assets," similar technology applies with respect to the assets covered by our usage of the term "Digital Assets" herein).