

SEC Investor Advisory Committee Meeting

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Introduction

Good morning, thank you for inviting me today and providing this opportunity to discuss Distributed Ledger Technology and its impacts on market infrastructure.

As you know, DTCC has a unique position in the marketplace. We are a user-owned and governed market utility and serve as the premier post-trade market infrastructure for the global financial services industry, including acting as the central counterparty for the cash markets in the U.S.

Our three Systemically Important Financial Market Utilities, DTC, FICC, and NSCC, processed securities transactions last year valued at approximately \$1.5 quadrillion.

We have a 40-year history of leveraging technology to drive innovation and reduce risks and costs for our clients. Today, we are building on that legacy by actively exploring and advancing the use of fintech to enhance post-trade processing while ensuring future applications are consistent with our shared goals of risk mitigation, market safety, certainty, reliability and efficiency.

DLT Approach

Like many of our peers in the industry, we are very excited by many of the new innovations that have emerged in the past several years – such as distributed ledgers, robotics, machine learning and AI as well as cloud computing.

We have been actively experimenting with DLT because we believe it represents a significant opportunity to re-imagine post-trade infrastructure by working in collaboration with the industry and by aligning the technology with our core mission of increasing efficiency and reducing risk.

Over the past two years, DLT has gained widespread attention in financial services and in the media because of its potential to modernize the post-trade environment in areas like clearance, settlement and payments.

While DLT is beginning to move beyond the hype of a couple of years ago, the technology needs to be proven before it can be widely adopted or considered enterprise-ready.

We've made significant advancements with internal experiments and have further developed our technical abilities with the technology as we advance initiatives related to derivatives and securities post trade processing.

For example, let me tell you about our work to re-platform our Trade Information Warehouse.

Last year, we selected IBM, in partnership with Axoni and R3, to provide a DLT framework to drive further improvements in derivatives post-trade lifecycle events. The firms are working collaboratively, building a derivatives distributed ledger solution for post-trade processing based on existing Trade Information Warehouse capabilities and interfaces with technology providers and market participants.

While we have been exploring DLT for more than two years now, in the Trade Information Warehouse project alone we have gained 33 weeks of real world experience of development, testing and experimentation replacing an industry-wide, critical, mainframe application. We have learned what works and we have seen the technologies' limitations that have yet to be overcome. Across all of our DLT work the past couple of years, it is clear that this technology is still evolving.

Critical factors for DLT moving forward include maturing the platform's capabilities for real world financial transaction requirements, scalability, and interoperability and governance.

Scalability

I want to spend a few minutes on the issue of scalability because it represents one of the most significant limitations many of us working with the technology have encountered so far.

DTCC operates some of the industry's most robust processing engines. We handle more than 100 million transactions per day, and our peak processing has hit 25,000 transactions per second. Any enterprise-ready distributed ledger that we employ must be able to handle the transaction processing performance of real-world financial systems, including validation and irreversible transaction finality and have the flexibility to manage increased volumes and support the throughput needed.

A critical component of our DLT platform evaluation includes pressure-testing high transaction processing volumes and benchmarking against production results to make sure that they meet or exceed current standards.

This is an important benefit of our early effort in the Trade Information Warehouse. Because the scale of Warehouse is a fraction of DTCC's daily securities processing, there are fewer hurdles to overcome before you can see a potential for DLT benefits.

Another key consideration of DLT's benefits to securities processing will come from all the myriad aspects of that processing starting initial registration through trading to corporate actions.

Smart contracts may provide some answers for some of the standard items of information beyond a simple ledger of ownership, but different technology platforms today are using different programming languages for their smart contract development without any common standards or even guidelines. At this early stage of smart contract development, it is important to consider how and if our clients are preparing themselves to consume and support various programming languages.

Collaboration

With so many firms exploring and advancing use cases with a variety of technology providers, DLT platforms and software solutions, the industry needs to do a better job of determining how multiple ledgers will integrate, not only with other ledgers, but also with legacy infrastructure.

DTCC has been a vocal proponent for greater collaboration across the industry in pursuit of the long-term goal of establishing standards and achieving interoperability across ledgers.

We are strong advocates for open source and serve on the Governing Board at Linux Foundation's Hyperledger Project – where we are one of 30 founding members – and also hold a leadership role with the Enterprise Ethereum Alliance to advance this objective.

Addressing the issues of interoperability and the need for consistent standards remains a top priority, along with developing the appropriate governance to operate the permissioning into the network and allowing nodes onto the network. In addition, we need strong governance to verify the code of smart contracts and to control the kill switch to stop the potentially disastrous results of an error in the code.

Governance cannot be outsourced to every individual chain creator or fintech developer. If that were to happen, interoperability would be difficult and costly.

In fact, the industry has encouraged DTCC to take a leadership role on these issues because, as an industry owned and governed utility responsible for protecting the stability and integrity of the financial system, governance is in our wheelhouse.

Regulatory Role

Of course, I can't speak in front of a regulatory audience without stressing the importance of collaboration between the supervisory community and the industry.

One of the most important pieces of work that still needs to be done is to understanding how the technology fits into existing regulatory frameworks.

It goes without saying that we expect the current regulatory framework, which has been created over the past 70 years, will need to evolve as DLT solutions are implemented.

We are encouraged by the potential of DLT to provide regulators with enhanced oversight of the markets and a deeper understanding of financial risks.

Rules facilitating and supporting technological advancement, while not overtaking ongoing important policy objectives such as risk mitigation, investor protection, resiliency and market and regulatory transparency, will be an important feature of this evolution.

The industry understands that this is challenging work, which is why it's important that we have ongoing engagement and dialogue with policymakers, supervisors and other key stakeholders.

We applaud the approach of the SEC and many other regulators, who have taken the time to engage, learn, remaining flexible and seek a deeper understanding how DLT can fit within the existing set of rules and regulatory goals.

I am looking forward to exploring all these issues and many more with the panel and all of you. Thank you again for inviting me today.