

# DISTRIBUTED LEDGER TECHNOLOGY AND THE FUTURE OF SECURITIES PROCESSING

The banking industry has been in turmoil for years due to the rising regulatory requirements and changing customer behaviour. The increasing competition and low-interest environment put further pressure on firms to cut costs and raise productivity, while the importance of constant change and adaptability in company-strategy are growing. Many firms are also stuck with aging technology and processes, and consequentially may be driven out of the market by new disruptive rivals if strategic modifications are not made in a timely manner. In this article, we look at strategic considerations of Distributed Ledger Technology (DLT) -based securities processing and its many benefits.

## OVERVIEW AND CHALLENGES

The current procedure for how securities are processed presents several challenges throughout its lifecycle. It consists of four post-trade steps, clearing and settlement (transmission, reconciliation, and confirmation of payment orders prior to settlement), custody service (all activities to correctly process securities and fulfil all duties in relation to risk management, accounting, compliance as well as client and stakeholder expectations), funds administration and tax.

While these post-trade steps are responsible for generating a significant amount of revenue in the form of commission and fees, they are also extremely cost intensive. This is due to a lack of standardization, i.e. every single transaction is handled by multiple intermediaries, each of whom has their own system for processing, sending, and receiving instructions, reconciling data, and each intermediary in the chain is required to retain an updated record of the transaction.

## TECHNOLOGICAL DEVELOPMENT AND POTENTIAL BENEFITS

As one of the most promising recent technological innovations, DLT has the potential to remarkably simplify operations, decrease costs, and boost efficiency as well as increase data security. It persists in impacting capital markets, as well as piquing the interest of government agencies and regulators. In addition to the digital assets that are entering the market, new solutions are also emerging in securities trading and settlement. Central requirements from the regulator are therefore necessary to set the framework for financial institutions.

The adoption of solutions based on DLT may present both opportunities and difficulties for the financial ecosystem and its players. Institutional actors, such as governments and central banks, are actively investigating and developing possible DLT-based use cases. Furthermore, despite the absence of shared norms and standards, market participants are rapidly experimenting with the technology. As part of natural competitive processes in the early stages, the various efforts are expected to result in a broad range of conclusions and solutions, which also raises the danger of market fragmentation. Although there are several DLT projects and field-testing initiatives in the post-trade area, the technology has yet to mature. This may,

however, change sooner rather than later as the legislative and technical environments adapt to these rapid developments. So far, the implemented solutions are limited to prototypes. There is also a slew of active DLT-based projects aimed at improving the financial environment and where the solution coexists or improves current procedures.

To achieve industry-wide adoption of DLT-based systems, transparent and appropriate regulation of services and activities will be required. Possible advantages could entail reduced settlement latency through promoting faster reconciliation. It would minimize the time required to align data before settlement, lowering settlement risk and reducing cost-intensive back-office tasks. Settlement necessitates execution and reconciliation across each tier of the holding chain, since information and accounts are segregated between multiple banks or custodians. DLT could disintermediate these transactions means and decrease associated inefficiencies because information can only be stored in a database maintained and accessible in a single distributed ledger, rather than in each individual database layer across the securities lifecycle. Trading, clearing, and settlement would then be combined into a single real-time procedure that updates a single ledger without involving numerous parties.

This leads to another significant benefit of using DLT – the elimination of custody risk for investors (i.e. the possibility that one of the chain's custodians fails). Custody services are offered by intermediaries as part of a larger package of services that may include cash and liquidity management, credit lines, corporate action processing, compliance, and other associated services. DLT-based solutions can significantly lower the severity of this single-point of failure risk while enhancing

transparency in the custody chain by reducing database redundancies. In terms of regulations, these transparency benefits of a DLT-based settlement system should be particularly appealing to regulators. What remains to be seen, is how much investors would value intermediary services in a DLT environment, and if they will still need them to the same extent.

## THE FUTURE OF SECURITIES PROCESSING AND REMAINING QUESTIONS

---

There is a widespread consensus in the financial industry that DLT will be operationalized in a gradual step-by-step evolution with a focus on the entirety of the trade lifecycle at a later stage. Market participants may be hesitant to decommission their present technology and infrastructure. As a result, they may prioritize segments where the greatest efficiency might be gained from DLT. For the foreseeable future, DLT networks will probably coexist with legacy market infrastructures, in which case multiple ledgers focusing on payments, issuance, trading, and settlement will almost inevitably emerge. Internal and external impediments to DLT adoption remain, including the difficulty of transitioning from legacy systems to DLT-based systems, apathy toward mainstream use, and unclear government legislation.

In conclusion, it is fair to state, that while the more drastic predictions foresee that the whole securities processing will be based on

blockchain technology within a few years, the existing regulatory and legal frameworks are not yet structured to allow for the widespread use of DLT in the securities post-trade process. Time will tell how big an impact the central bank participation and the use of central bank money for securities settlement will have. The extent to which one or more central authorities are required to execute activities like key management, smart contracts, and asset issuance will increase in the near future, as will the regulation of these new central infrastructure functions. The interoperability between DLT and non-DLT systems, as well as migration to such systems that operate in multiple jurisdictions around the world with numerous authorities involved, will be a major deciding factor, along with the rising concerns about data protection and vulnerability to cybercrime.

### AUTHORS:

**Florian Günther-Borstel**, Principal Consultant

**Fabio Manakas**, Associate

### CONTACTS:

**Andreas Pfeil**, Partner

**M** +49 172 165 3932

**E** [andreas.pfeil@capco.com](mailto:andreas.pfeil@capco.com)

**Carsten Hahn**, Partner

**M** +49 17 2213 3144

**E** [carsten.hahn@capco.com](mailto:carsten.hahn@capco.com)

**Patrick Zauner**, Managing Principal

**M** +49 172 754 3637

**E** [patrick.zauner@capco.com](mailto:patrick.zauner@capco.com)

[WWW.CAPCO.COM](http://WWW.CAPCO.COM)



**CAPCO**  
a wipro company