

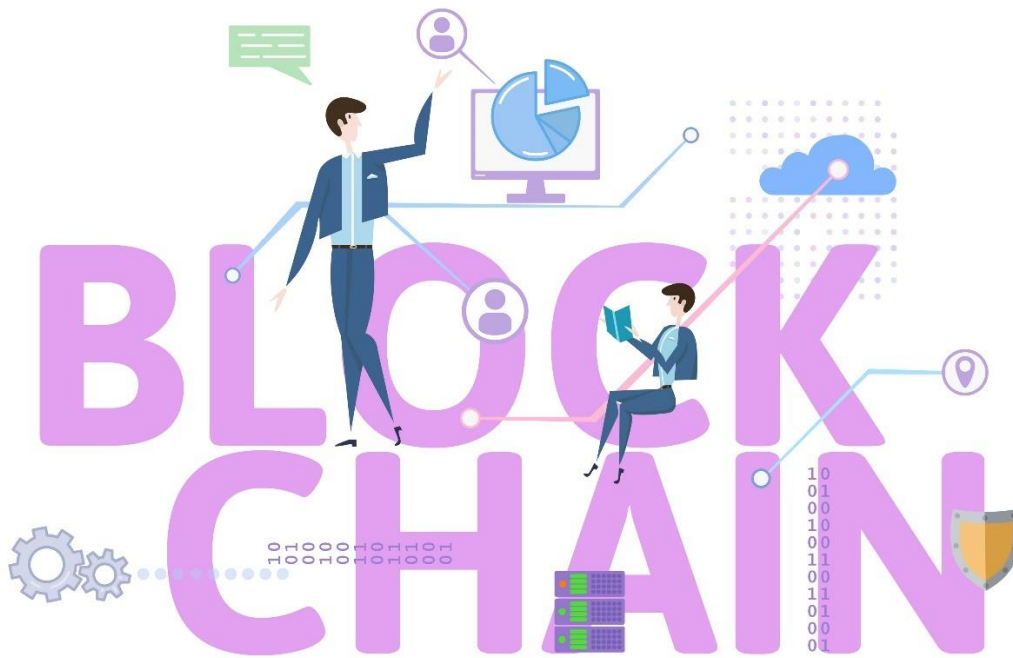
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Mortgage and Blockchain: Ready for Disruption?

An Accenture Whitepaper



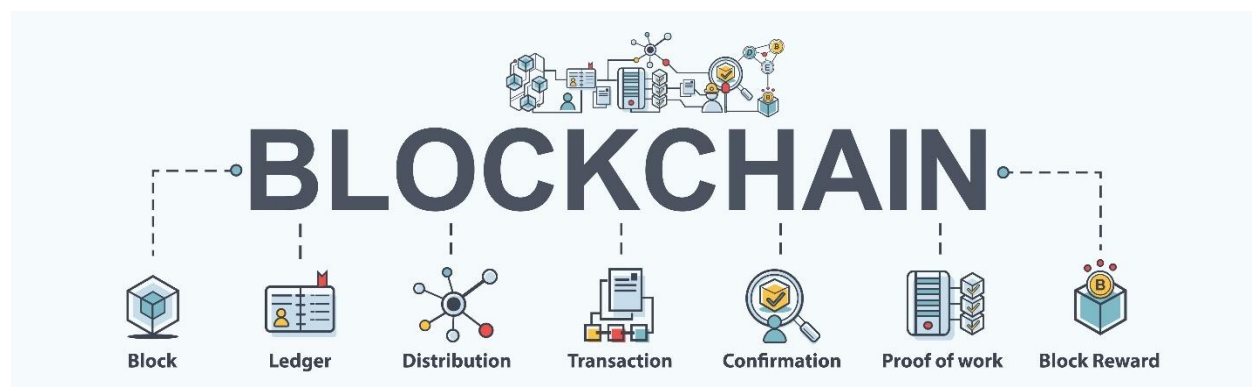
Attaining a mortgage can be a painful, lengthy and costly process. On average, the origination process takes 40+ days¹ and, over the past decade, origination costs have more than doubled to around \$9,000 per loan². The origination process involves 150+ steps and 50+ points of reconciliation among numerous parties, including borrowers, lenders, insurers, appraisers, note holders...the list can go on. Once origination is complete, servicing and securitization are also rife with inefficiencies.

Blockchain has gained tremendous interest in financial services over the past several years. Many companies have been exploring enterprise applications using private, permissioned models of distributed ledger technology (DLT) and conducting proofs of concepts. As confidence in the technology has increased, firms are moving use cases towards production. More recently, performance testing, such as that conducted by the DTCC proving the ability to process over 6,000 transactions per second³, have alleviated scalability concerns about the technology.

The mortgage industry is a prime example of an ecosystem that would benefit from DLT— it is a highly complex network of interwoven relationships rife with data reconciliation and validation, which add cost and time to the process. Organizing the ecosystem around a DLT platform can enable up to 80% reduction in cycle time⁴, reducing inefficiencies and improving the customer experience. DLT can decrease loan origination costs by over 40%⁵, with an additional 10-15% cost reduction⁶ in Servicing; overall savings for the industry is estimated at \$25B+⁷.

What are the Key Attributes of DLT?

- Transparency: A shared source of truth is created and available to all actors involved
- Control: Data is encrypted and segregated at the data element level with only the participants involved in specific transactions related to their portion of the business process able to read or write to the ledger
- Simplicity: Only one data entry is required, therefore streamlining reconciliation and eliminating complex reporting and constant messaging
- Provenance: Complete history of any data element can be traced, thus no information is lost over time



¹ Ellie Mae 2019 Origination Insight Report

² Mortgage Bankers Association (MBA)

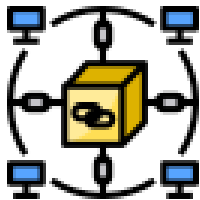
³ <http://www.dtcc.com/news/2018/october/16/dtcc-unveils-groundbreaking-study-on-dlt>

⁴ Accenture process analysis based on Q3 2018 US Mortgage Bankers Association (MBA) Performance Report

⁵ Ibid

⁶ Ibid

⁷ Ibid



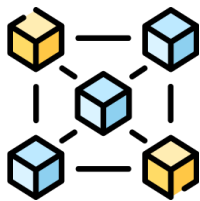
How does it Apply?

DLT's unique attributes help alleviate many of the most common pain points in the mortgage lifecycle in a way that other technologies do not and ensure that all participants are operating from a shared source of truth. Particularly, DLT can reduce manual intervention, eliminate reconciliation and remove the need for document exchange among parties.

- Validation of Common Data: Many actors are operating off the same data, yet because each keeps its own copy, countless cycles are spent validating data elements across ecosystem participants
- Complex Reporting: Due to the lack of confidence in shared data across actors, complex reporting requirements have ensued. For example, servicers are required to submit monthly reporting on the status of individual loans to note holders with differing requirements and formats
- Multiple Integration Points: Due to disparate systems' inability to ingest shared data, it is common for participants to enter the same data into different systems creating not only inefficiencies but also an increased chance for error

Where is the Opportunity?

There are several use cases across the end-to-end mortgage lifecycle. Maximum value would be extracted with an end-to-end platform solution, however, implementing a solution in any portion of the process with the right ecosystem players would bring significant value to participants.



- Mortgage Issuance: adjudication of lending and insurance decisions, including collecting and validating property, borrower, and loan information and assessing it against risk parameters
- Property & Title Validation: search, validation, and transfer of property titles as part of the closing and renewal process
- Closing: mortgage closing and interactions among lenders, title agents, note holders and other parties to complete the closing process, including transfer and registration of the note
- Servicing: performing required monthly reporting activities, as required by the GSEs or other note holders, and managing a non-performing loan through modification into potential foreclosure and associated efforts related to REO & property preservation
- Securitization: creating a securitization pool, including validation of individual loans against pool parameters and subsequently managing pool updates

How is it Enabled?

Each use case would leverage one or more Digital Objects, effectively a dataset, that serve as the single source of truth for assets and their attributes (e.g., ownership and changes over time) throughout the mortgage lifecycle. There are four key objects that are relevant to the mortgage ecosystem:



- Borrower: Digital wallet of a borrower's information with the ability to provide access to mortgage-relevant data to stakeholders throughout the loan lifecycle
- Property: Digital twin of a home serves as central repository for all title and property data, which are linked to the loan object
- Loan: An object created by the issuer at the time of origination to manage the end-to-end lifecycle of a mortgage and serve as a single source of truth for all loan information
- Security: A single source of security information for a pool of individual loans with lineage to underlying collateral

DLT can add significant value across the end-to-end mortgage ecosystem. Ultimately, borrowers would have a better experience, lenders could originate mortgages faster, servicers would be alleviated from the burden of monthly reporting and note holders would have better risk management. An end-to-end mortgage platform, enabled by DLT, would significantly reduce costs for ecosystem participants while enabling creation of new business models, products and services.

Danielle Kuchinskas Martell, CFA, is an executive in Accenture's Banking & Capital Markets Strategy Practice and has spent her career in financial services, working with clients to mobilize and execute large transformational programs underpinned by technology. She looks to understand the impacts of innovation and emerging technology, including blockchain / distributed ledger technology (DLT). Most recently, she has been working with clients in the US and Canada to identify DLT opportunities across the mortgage ecosystem.

