

## Lex Mundi Blockchain White Paper Series

# Blockchain and Real Property Recording

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### The Basics

Blockchain technology was originally created by Satoshi Nakamoto to serve as the backbone for the cryptocurrency Bitcoin. However, Blockchain technology and real property recording could not be more compatible. Understanding how and why Blockchain technology and real property recording are compatible is as easy as understanding how both the systems work.

Real property recording systems vary by state law, but most states have adopted some form of a recording act. In general, a recording act requires individuals and corporations to document (i.e., record) by filing an instrument (i.e., deeds, mortgage, etc.) contemporaneous with an event (i.e., sale, conveyance) every time an event occurs that affects property title. The instruments, such as a mortgage, an easement, or a deed, are filed with a government entity usually in one central location such as a state or county office, which is responsible for maintaining the recording system. The record of these documents creates a chain of title for real property that shows anyone who has or had an interest in the property as well as when and how the interest was sold or acquired. The chain of title operates effectively like a chronological list of transactions that verifies that the current owner is the rightful owner. Blockchain technology works in much the same way.

A Blockchain is a chronological list of transactions or blocks. Each block contains “recording-type” information about the transaction such as the parties in the transaction, the date of the transaction, and a description of the transaction. These are the same essential components to any document in a chain of title or recording system. An internet search of the term Blockchain will return a similar definition: “a digital ledger in which transactions made in bitcoin or another cryptocurrency are recorded chronologically and publicly” or in other words a chain of title for cryptocurrency. To understand how Blockchain technology can work with property title you really only need to understand that the same concepts that apply to any cryptocurrency transaction can be applied to any real property transaction.

### The Chain of Title within the Blockchain

If Blockchain technology works the same way as the current recording systems, then why do we need it? Because Blockchain technology is:

1. almost impossible to falsify; and
2. nearly instantaneous.

The current real property recording system is slow and susceptible to fraud or mistake. For example, before someone buys an interest in property, they want to know that they will be taking good title, so first they need to verify that the chain of title is correct. They look through the chain of title, acquire title insurance, and go through a lengthy process to assure good title. Then they buy the property and record the sale. But with

Blockchain the verification is instantaneous. The verification, sale and recording of the transaction all happen when the transaction takes place in the Blockchain. With Blockchain, when any transaction occurs, such as one that affects property title (see our examples from earlier: a mortgage is taken out, an easement is granted, or a new deed is created) the transaction is verified by the existing Blockchain and is recorded into the Blockchain all at effectively the same time. Understanding how Blockchain technology works is actually much more complex.

Blockchain technology requires three main components to operate:

1. private key cryptography;
2. a digital ledger shared through a distributed network; and
3. a system of incentives to process the distributed network's transactions.

The private key is a way of making sure that you are who you say you are in a transaction. It is basically your ID and digital signature combined, but with private key cryptography only you are able to sign your name. The distributed network is a system that digitally stores the chronological list of transactions by distributing the list amongst a network of computers. Any time a new transaction occurs, it is distributed amongst the network and all the lists are updated. In this way the distributed network also verifies the transaction because, for a new transaction to be added to the Blockchain, its chronological list must match that of every other list in the network of computers. If the list does not match then the network will reject the false record. There are many more layers to understanding Blockchain technology. Despite the increased complexity however, the basic idea remains the same: Blockchain technology is a system of chronologically recording transactions.

## Why Blockchain is Better

Why is Blockchain better than an electronic database for property title records? Real property recording systems that are now electronic have allowed title searches to be done much faster than possible with prior systems. However, these recording systems are simply electronic databases and are still subject to the same types of faults as the current system. For instance, an electronic database is still a centralized database. It can be hacked. Further, something akin to a natural disaster could result in the destruction of all title records. In addition, an individual can still forge documents or commit fraud with an electronic document or system. An electronic database would be a step up - but it does not change the system. An electronic recording system simply makes title chain digital and therefore easier to search. Blockchain streamlines real property transactions, adds increased security to the transaction, helps prevent fraudulent transactions, and creates the searchable digital chain of title. If an electronic database is a step up, Blockchain is an elevator.

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