

TECHNOLOGY

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The blockchain is the backbone of cryptocurrency transactions but its use has expanded beyond finance. It is also utilized for so called “smart contracts” and other applications. This primer will enhance understanding of the blockchain and its usefulness to lawyers and clients.

A Primer for Understanding Blockchain

ABOUT THE AUTHORS



Doug Vaughn is a partner at Deutsch Kerrigan, LLP in Gulfport, Mississippi. His practice is focused on medical malpractice litigation and health law. He also represents businesses and individuals in matters of commercial litigation, products liability and catastrophic personal injury. He chairs the IADC’s Medical Defense and Health Law committee and is a vice chair of the Technology and Transportation committees. He can be reached at dvaughn@deutschkerrigan.com.



Anna Outzen is an associate at Deutsch Kerrigan, LLP in Gulfport, Mississippi. Her practice focuses on issues in the insurance and health care industries. She also devotes her energies to labor and employment matters. She can be reached at aoutzen@deutschkerrigan.com.

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The Technology Committee keeps the IADC membership current on the use of technology in litigation, whether in the conduct of discovery or in the use of technology in the courtroom. It educates its members on the impact of technology in their practices – on the ways they communicate with each other, with courts and clients, on the systems they use to record and produce their work, and on technological developments in marketing for law firms. The committee provides information to its members on legal developments in the law governing the use and development of technology, in particular on Internet and computer law and related subjects. Through its members, it acts as a resource to the IADC staff and leadership on technology issues facing the organization. Learn more about the Committee at www.iadclaw.org. To contribute a newsletter article, contact:



Elizabeth S. Fitch
Vice Chair of Publications
Righi Fitch Law Group
beth@righilaw.com

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Decentralized cryptocurrency first appeared in 2009, utilizing a database to keep track of all transactions in a distributed ledger. The ledger has become known as blockchain or “the blockchain” and industries have seen the usefulness of blockchain beyond the purpose for which it was created.

What is Blockchain?

Blockchain is essentially a computerized public ledger that can apply to almost anything a person might typically save into a database or spreadsheet.¹ Whatever content is uploaded to the blockchain is shared among users so that all participants to the transaction can view the blockchain and be in sync.² Blockchain has been described as a “spreadsheet in the sky,” similar to a virtual database. For example, the cryptocurrency Bitcoin, first used the blockchain concept in its digital currency system where monetary transactions occur between people and the blockchain maintains a collective history of all of transactions that have ever over occurred on the network.³ Recently, however, blockchain

technology has caught the attention of much more than just Bitcoin.

The Harvard Business Review listed blockchain as one of the “8 Top Tech Trends to Watch” in 2016, describing blockchain as “a sort of distributed consensus system, where no one person controls all the data” that will eventually turn into “a universal platform that can be used for anything requiring signatures or authentication” and will “disrupt entire industries” – the legal industry included.⁴ Gartner, Inc., a technology research firm, has also included blockchain as part of its top 10 technologies for information security in the context of pervasive trust services.⁵ The Homeland Security Department recently awarded cybersecurity research grants to encourage the use of blockchain technology to verify identities and make computer systems more secure.⁶ Ex-Google engineer, responsible for the voice recognition software used in Android smartphones, has used blockchain technology to build a new operating system for banks, called VaultOS.⁷ Slowly and

¹ Joseph Raczynski, *Building Our Blockchain Future: What Lies Ahead (Part 3)*, Legal Executive Institute (April 21, 2016), <http://legalexecutiveinstitute.com/blockchain-future-ahead>.

² Ian Lopez, *Blockchain Buzz: How the Blockchain Stands to Change Legal Tech*, Legaltech News (July 20, 2016), <http://www.legaltechnews.com/id=1202763033042/Blockchain-Buzz-How-the-Blockchain-Stands-to-Change-Legal-Tech>

³ Raczynski

⁴ Amy Webb, “8 Tech Trends to Watch in 2016,” Harvard Business Review (December 2015),

<https://hbr.org/2015/12/8-tech-trends-to-watch-in-2016>

⁵ Warren Gorham & Lamont, Top 10 Technologies for Information Security in 2016, 2016 WL 4375247 (August 2016).

⁶ Paul Merrion, “DHS awards blockchain technology research grants to improve cybersecurity,” Congressional Quarterly, Inc., 2016 WL 4413311 (2016).

⁷ Jemima Kelly, “Ex-google engineer launches blockchain-based system for banks,” Reuters (July 13, 2016) <http://www.reuters.com/article/us-tech-banks-blockchain-idUSKCN0ZT1S3>

certainly, blockchain technology is making its way into the legal world as well.

Legal Uses for Blockchain

Record Keeping

First and foremost, blockchain could enhance the legal industry with its record keeping function. All records ever uploaded would remain. Blockchain can keep documents in their fixed form, but also can allow for changes to documents so long as all participants agree to the change. A unilateral change is not possible. Maintaining records on blockchain could minimize instances of human error, eliminate surreptitious changes after the fact and also reduce the need for paper. The MIT Media Lab has considered blockchain an innovative way of perfecting the process for legal notices, particularly in instances where a party's address is unknown or a party is avoiding service. MIT Media Lab is also engaged in a prototype effort to determine whether blockchain could actually automatically implement the legal requirements, currently performed by archivists, for distribution and collection of records.

"Smart Contracts" and Automation

If parties choose to put their contract on a blockchain, the terms are transparent and enforcement can be made automatic. Such contracts have been described as "smart contracts." For example, If the parties to a contract agree that a certain amount of

money shall be transferred to a party from the other party on a certain day, enforcement of this payment can be made automatic through blockchain. This type of automatic enforcement is already widely used. For example, if a song is purchased on an iTunes account and the purchaser later tries to use the song in a way that is not authorized under the user agreement with Apple, it simply won't work. Utilizing blockchain in smart contracts has the effect of automating enforcement of contracts without human action. Applications are currently in use and others are in development to use the blockchain in various industries to eliminate the waiting between a customer making a purchase and the provider receiving payment. This technology – disruptive to the delays we have all experienced for all of our lives – will apply to everything from banking transactions to stock trades to health care services.

Land Records and IP

Blockchain could also affect the legal industry by way of intellectual property and land records. For intellectual property users, one could create an indisputable ledger on a global scale regarding their property rights. Likewise, if one were to register a trademark, blockchain could search the network for similar ones and either grant or deny the registration request without delay. The land records system could also benefit from blockchain, simplifying the process for property conveyances, liens, and performing title searches. Again, blockchain could be



used to prevent one who is trying to record a property conveyance if incorrectly done or the conveyance would be invalid based on conveyance history.

While the initial effects on the legal industry are seemingly administrative, blockchain-like technology is becoming more and more used in businesses across the country, business which could be your potential client one day needing guidance on how these networks are impacted by the law.

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