eDiscovery of Value Transfers Over Digital Value Transfer Vehicles

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Bitcoin and similar digital value transfer vehicles (“DVTVs”) have been among the most controversial technologies to disrupt the financial mainstream. Because DVTVs provide a level of anonymity, and is currently not subject to significant transaction fees, DVTVs has become a darling of venture capitalists, libertarians and the technically-inclined. With the growth of Bitcoin, and other DVTVs, lawyers need to open their eyes to the new evidentiary issues, resources, and challenges associated with eDiscovery of evidence of DVTV transfers.

Most experienced attorneys, accountants and fraud investigators are aware of the evidentiary record left by conventional forms of monetary transfers. Despite the complexities created by the Stored Communications Act, and rampant spoliation opportunities that may complicate efforts to acquire evidence, the ESI-issues related to conventional monetary transfers is well understood. Unlike those better-understood traditional forms of monetary transfer, establishing the existence of value transfers in DVTVs present new and novel eDiscovery challenges.

DVTVs operate using a peer-to-peer transfer system known as the blockchain, which can be understood as a massive ledger tracking all transfers conducted in that DVTV from the beginning of the system’s operation to the latest set of transfers to be cleared by the system, providing “trustworthy verification and agreement regarding asset ownership.”[[1]](#endnote-1) The blockchain functions independently of other existing financial transfer networks, and offers novel attributes, like pseudo- anonymous record keeping, predictable brief transaction-clearance intervals, and a lack of third party information collection typically associated with value transmission. Although pseudo- anonymity creates forensic complication, the blockchain itself creates novel yet accessible evidence of transfers.

Using conventional monetary transfer, a third party intermediary retains data, including the identity of the transferee and transferor’s account and actual identity, the amount of value transferred, and the date/time of the transfer. Evidence of conventional value transfer is typically sought from the transferor, transferee (each of whom may be compelled to produce information obtained from their own bank), or the third parties providing the transfer service (*i.e.* the bank or remittance provider). Because most financial institutions in the United States are subject to regulatory oversight, they are obligated to maintain detailed records and may be compelled to produce financial records which demonstrate the existence, timing, and the identity of the parties to value transfers.

A transfer using a DVTV creates a fundamentally different evidentiary record. A transferor or transferee does not open an account provided by a third party, like a bank. Instead, a DVTV user maintains and operates software, called a wallet, which allows the DVTV user to send and receive value documented and verified over the blockchain. Unlike traditional financial institutions, the wallet software itself does not require its user to verify his or her identity as a predicate to its use. The wallet software provides its user with a public address, a private key and a “place” to store value in the DVTV. Because of its portability, the wallet software can exist on any storage medium- a USB thumb drive, hard drive, or a remote wallet service. Wallets may be “hot” if connected to the Internet and capable of completing transfers, or may be “cold” if taken offline and unable to send or receive transfers.

The first step to identify transfers made by DVTV, is to attempt to identify the location and public address of the DVTV user’s wallet. Unlike bank accounts, wallets can be backed up, copied, moved and/or deleted quickly. While locating the wallet itself may allow you to establish that a person or entity has or had control of the wallet, the value in the wallet can be moved, and the wallet deleted almost instantaneously. Thus, finding the actual copy of the wallet may be impossible. Unlike traditional modes of value transfer, which are evidenced by the name and address of a financial institution and an account number, DVTV transactions are evidenced solely by the public address of a transacting wallet, which is analogous to a street location, as opposed to a traditional bank account number, which is more akin to a proper name. Although wallets themselves may use multiple public addresses to make transfers, the public address may identify the “to” and “from” of DVTV transfers, but does not itself identify the “who” underlying the transfer.

Armed with the public address of your discovery target’s wallet, it is trivial to discover the history of that wallet’s public key’s transactions. There is no need to subpoena records from any third party; the blockchain itself is open, public and viewable through any number of so called “block explorers,” which are web sites that display transaction activity conducted over the blockchain. By using the blockchain, “each Bitcoin transaction is registered for all to see.”[[2]](#endnote-2) Because DVTV s use cryptography to verify transactions and prevent double–spending of value, the data found on the block explorers reading that blockchain is mathematically verifiable and thus, reliable. Block explorers allow users to search and discover the full history of the transfers made to and from a single public address on demand. Thus, armed with the public address for your discovery target, you can easily discover a history of transactions sent and received by that address, to or from which other address the target has sent or received any value, the amount of DVTV value sent and received by that address, and the time and date of those transfers. Through the use of block explorers, litigants can discover the history of DVTV transfers in an effort to identify the counter--parties to each transfer, and ultimately, though advanced forensics, identify the persons or entities that sent or received transfers of value from your discovery target.

Bitcoin and other DVTVs powered by blockchain technology provide the unprecedented ability to move valuable assets digitally, globally, cheaply, pseudo-anonymously, and without the need for any third party identity data collection or interference. Because of the unique features of the blockchain, lawyers, accountants and fraud examiners seeking to discover and verify Bitcoin transactions must familiarize themselves with block explorers, and the new value transfer structures created by DVTVs to begin tracing transfers conducted by DVTV.

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1. Theodore W. Reuter, BITCOIN'S DIGITAL ENTERPRISE CREATES ALTERNATIVE BUSINESS TRANSACTIONS, 57-AUG Advocate (Idaho) 33, 34 (August 2014). [↑](#endnote-ref-1)
2. Lawrence Trautman, VIRTUAL CURRENCIES; BITCOIN & WHAT NOW AFTER LIBERTY RESERVE, SILK ROAD, AND MT. GOX?, 20 Rich. J.L. & Tech. 13, at \*53 (Sept. 2014). [↑](#endnote-ref-2)