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Blockchain, patents and open source software

By Tom Franklin and Brian Olion

Some people think open source and patents go together like oil and water. However, both are integral to any commercialization of blockchain technology. As blockchain continues to disrupt industries, protecting a blockchain's value becomes essential. Value means different things to different people. Some value the broad adoption of successful blockchain technology. Others value blockchain technology based on the amount of money it can generate or save. No matter how a blockchain technology is valued, open source and patents are available to protect your investment.

Open Source Protection: Value by Adoption

Open source software licensing is a great way to build value from multiple parties adopting the blockchain technology. According to the Open Source Initiative, open source licenses generally "allow software to be freely used, modified, and shared." People can see the underlying source code of software and use that code in their own product to rapidly develop robust blockchain technologies. People are also able to contribute to the development of open source software by modifying the source code. However, a person must share those contributions in some circumstances. This transparency can be critical in getting people to adopt your new blockchain technology.

Many decentralized distributed ledgers are implemented by blockchain technology. Distributed ledgers are created by software that runs on several different computers, controlled by different people. People can inspect, improve and trust the distributed ledger software running on their machine. Running proprietary or non-open source code is like letting a contractor in your house when you are not home. How can you be sure what he is doing? With the constant threat of malware, spyware and other security vulnerabilities, people may be less likely to adopt a blockchain technology if they cannot inspect the source code.

There are many different types of established open source licenses (e.g., MIT, Apache, GPL and BSD). Licenses like GPL implement viral licensing or copy-left licensing that grant a copyright license to users of the open source software. Copy-left is the concept that those enjoying open-sourced code must similarly open-source their code under the same license. However, most open source licenses are silent on how patents are related to the licensed software.

Example: Cryptocurrencies. Most cryptocurrencies are blockchain-based projects. A cryptocurrency may gain value based on the adoption of the underlying blockchain technology. For example, Ethereum uses the cryptocurrency Ether to conduct operations on the Ethereum network. Theoretically, as more users and businesses adopt the Ethereum network, the value of Ether will rise.

Patent Protection: Value by Innovation and Exclusion

A patent is a great tool to keep unwanted users from implementing a part of your blockchain technology. A vast amount of proprietary software has open source elements and patented elements. A patent owner has the right to exclude another from using a claimed invention. These exclusionary rights enable a patent owner to lock down one or more parts of a blockchain technology. In addition, a patent is an asset that may increase the value of the company behind a blockchain technology. A recent study found that a startup with a patent has approximately 50 percent more sales growth over a five-year period and is more likely to be acquired within that time frame than a startup without a patent.

Protecting blockchain technology via a patent has not gone unnoticed. In 2012, there were only 71 blockchain-related patent applications; in 2016 there were 469. This trend is expected continue as blockchain technology expands.

Example: IBM. IBM is a top-five holder of blockchain-related patents and patent applications. U.S. Patent Publication 20180053161, currently assigned to IBM, is a patent application directed towards a secure retail transaction using a blockchain-based digital currency. While this application is not yet a patent, it shows that businesses find value in patenting blockchain technology. If IBM receives the patent, it gives them the option license the technology to a retailer who wants to implement the patented blockchain technology.

Open Source and Patent Protection: Value by Customization

Open source and patents are like bread and butter: good in their own right, but great together. There are many ways to combine open source and patents.

Scenario 1: Greater Protection of Blockchain Technology Domestically and Abroad. Company A uses an Apache 2.0 license to open source a piece of blockchain software. An open source license Apache 2.0 grants a patent license to individuals who contribute to the blockchain software, so long as the contributor follows the rules. If the contributor does not abide by the license, Company A can bring a patent suit. This enables Company A to enforce the Apache 2.0 license requirements. As an added bonus, patents can be obtained for different countries, allowing Company A to enforce

open source licensing requirements internationally.

Scenario 2: Prevent Proprietary Copies of Open Source Blockchain Technology. A malicious actor sees Company A's open source-licensed blockchain software and instead of using the open source code directly, the malicious actor creates a new proprietary blockchain software with the same functionality. Many open source licenses protect the code itself not necessarily the functionality of the code. Because a patent excludes others from implementing the same functionality regardless of the code, Company A can file a patent suit to block the copied program. Patents help the adoption of a blockchain technology by ensuring that the functionality associated with open source-licensed code remains open source.

Scenario 3: Free-to-use Version and Commercial Version of Blockchain Technology. Company A creates an open source free-to-use version of their blockchain software. Next, Company A creates a commercial version of the same blockchain software with enhanced features and patents those enhanced features. The commercial version is then licensed to Company B. Company A may gain the open source benefit of adoption and also the patent benefits of exclusion for the most desirable features. Layering proprietary functionality on an open source base is beneficial.

Example: Hyperledger. Hyperledger is an open source collaborative effort to advance cross-industry blockchain technologies. Among its "premier members" is IBM, which is heavily invested in patenting blockchain technology. Although it is not entirely clear what IBM's open source or patent strategy is, IBM is a good example of a company utilizing open source and patents for their blockchain technology.

How to protect blockchain technology depends on how it is valued. The information presented in this article is meant to show potential ways blockchain technology can be protected. As blockchain technology continues to grow, one should be prudent in the strategies used to protect the value of their blockchain technology.

Tom Franklin *and* **Brian Olion** *are attorneys at Kilpatrick Townsend & Stockton LLP.*


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