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IP Issues Surrounding Blockchain Technology Implementation

BY **THOMAS FRANKLIN
AND BRIAN OLION**
KILPATRICK TOWNSEND &
STOCKTON

Like cloud computing in 2007, blockchain is today's latest technology craze. Companies are rushing to develop and patent blockchain technology. Despite its rising popularity, there are several significant issues to consider before joining the blockchain patent "land grab."

Many implementations of blockchain technology may not be patent eligible. *Alice Corp v. CLS Bank* is an infamous case where the Supreme Court determined that fundamental economic ideas cannot be patented simply because they are implemented by a computer. This means that simply implementing a known economic practice (i.e., a business method) using blockchain may not result in a patent eligible invention.

The basic idea of blockchain is not complicated. It uses mathematical properties to verify a transaction or action that forms a link in the blockchain. Many patent applications have been filed that simply recite commonly known properties of blockchain with known economic practices like purchasing goods, verifying transactions, trading stocks or exchanging currency. However, merely adding blockchain or related buzz words to a patent application is often met with skepticism from the U.S. Patent and Trademark Office.

For example, U.S. Patent publication US 2015/0170112 is a pending blockchain-based patent application for exchanging currencies. The USPTO initially determined that the claims in the application were not patent eligible because the claims were "similar to performing a financial transaction such as creating a contractual relationship." Similar issues have appeared in several blockchain-based applications that merely implement blockchain into already established economic practices.

To make matters worse, the USPTO technology center that examines patent applications related to business methods has allowance rates far lower than office-wide averages. The business methods art units include patent applications related to e-commerce, health tech, and financial business practices.

As a result, when you file a patent application that uses blockchain technol-

ogy to improve e-commerce, a financial practice or another business practice, it is statistically unlikely you will get a patent should it land in these impossibly stringent areas of the patent office.

To overcome patent eligibility issues and low allowance rates, various patent strategies highlight the technical advantages of implemented blockchain technology and necessary improvements to surrounding systems. By highlighting these technical advantages of the blockchain, you may be able to show that your application is significantly more than a fundamental economic idea being implemented with known blockchain techniques.

Open source software is pivotal to most blockchain implementations and another important consideration for a blockchain development strategy. OSS is generally characterized by source code that is open (viewable and editable) by anyone. To enforce open source sharing, use of OSS is defined with an open source license. These licenses serve as terms of use for any OSS you incorporate into your code base, and failing to comply with these terms of use could result in a lawsuit. Many blockchain projects use open source libraries to quickly develop their blockchain technology. The idea is that allowing several entities to access and improve code helps it develop more quickly and efficiently than if the code was developed by one entity. Access by others is crucial to allow the peer review necessary to trust an implementation of blockchain for the innovation.

But OSS can create issues for patent protection. By its nature, OSS source code is published to the public. If blockchain technology is developed based on open source code, one or more parts of that blockchain technology may be public knowledge. This public knowledge may be used as prior art to reject a patent application. Furthermore, even if one managed to get a patent based on open source code, she must still adhere to the open source licensing requirements. For example, certain implementations of the Gnu Public License may prevent a patent owner from taking action on anyone who uses the open source code or a derivative of the open source code.

GPL licenses are also viral licenses, which means the license follows the code and derivatives of the code. As a result, if a person develops a blockchain



THOMAS FRANKLIN



BRIAN OLION

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technology using GPL licensed software, the blockchain technology may also be automatically governed by the same GPL license (i.e., so called copyleft requirement). Thus, a situation may arise in which a blockchain technology is patented, but the patent may be unenforceable according to an open source license. To mitigate this, blockchain developers should know which parts of the blockchain code utilize OSS and which open source licenses govern that incorporated code. Once these issues are properly identified, a patent application may be drafted to describe the invention in such a way as to avoid open source prior art and open source licensing issues.

Even though there are traps for the unwary, the first-to-file system creates an incentive to file patents early and often for blockchain-based innovation. The U.S., like most of the world, today follows a first-to-file rule for who gets an issued patent. This is extremely important for blockchain technologies, because blockchain can be applied to disrupt just about every industry. It is likely that different innovators will independently think of implementing blockchain technology in similar ways. By

filing first, an innovator may secure and enforce a patent to prevent others from practicing a similar blockchain-based technique, potentially giving the prompt filer ownership of platform technology for that industry.

If you are developing a blockchain technology and have not filed a patent, you are behind the curve. Last year alone more than 1,248 blockchain-based patent applications were filed across China, the EU, Japan, South Korea and the U.S., a huge jump over the prior four years. This explosive growth shows that entities realize the value of patenting blockchain technology.

While it is certainly challenging, patenting blockchain technology is a viable option for those who act quickly with the assistance of experienced counsel. A carefully thought out patent and business strategy can make sure that the blockchain revolution does not displace your business from a transformed marketplace. •

— Thomas Franklin is a partner and Brian Olion is an associate with Kilpatrick Townsend. Their practices include patent strategy in many areas of technology, including those related to blockchain. Reach them at www.kilpatricktownsend.com.