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The Patentability of Encryption Inventions

By Patrick T. Muffo

Encryption seems to be in the news quite a bit lately. Electronic retailers and government organizations have become targets of computer hackers across the globe, attacking their servers and obtaining sensitive information in the process. Indeed, the United States recently withdrew several spies from China over a data breach that could have compromised the safety of the spies by revealing their true identity. With this in mind, computer scientists and mathematicians work tirelessly to develop more advanced encryption algorithms to stay ahead of the hackers. But are these algorithms patentable under *Alice* and its progeny?

Two cases illustrate both sides of this coin. In short, courts are reluctant to find patentable the routine implementation of encryption on existing computer technology. However, developing a new encryption algorithm altogether is more likely to obtain patent protection.

Kingslite Holdings

The case of K*ingslite Holdings Inc. v. Micro-Star International Co. Ltd. et al.*, CV 14-03009 JVS(PJWx) (C.D. Cal., October 16, 2015) found invalid an encryption invention for BIOS services. For background, BIOS services (Basic Input and Output Services) are part of an operating system that allows a central processing unit to perform routine functions on a computer, such as utilization and diagnostics. When a computer boots up, for example, it retrieves instruction code residing in the BIOS. The importance of these services therefore make them susceptible to attack from hackers.

Kingslite Holdings is a non-practicing entity that bought several patents relating to BIOS encryption for a reported "low to mid tens of millions of dollars." Kingslite accused Micro-Star and others of applying public and private key encryption to BIOS services, therefore infringing the claims of at least one of the patents.

The court found the claims invalid for want of patent-eligibility. First, the court noted that the claims were directed to the abstract idea of applying encryption to BIOS services. The court further noted that the encryption algorithm itself, which used public and private keys, could be performed by the human mind.

The court then held the claims did not recite something more to transform the idea into a patent-eligible invention. Kingslite argued the claims are directed to improving the function of the computer itself, which *Alice* suggested would be deserving of patent protection. The court agreed, but noted that "the claims here recite an invention that involves conventional use of a computer." In other words, the claims lack patent-eligibility because the improvement to the computer is only with routine computer technology, i.e., the age-old concept of a public and private key. Because the improvement to the computer was not novel, the court held the claims lack patent-eligibility.

TQP Development

In *TQP Development, LLC. v. Intuit, Inc.*, No. 2:12-CV-180-WCB (E.D. Texas Feb. 19, 2014), Judge Bryson (sitting by designation) declined to invalidate claims to an encryption cipher as lacking patent eligibility. Judge Bryson found the invention to be claimed in much more detail than simply applying the general concept of encryption to a particular technology: "the claim is drawn to a very specific method of changing encryption keys [and not a] basic tool of scientific and technological work."

To be fair, *TQP Development* was decided prior to Alice, but Bryson's position could apply to post-*Alice* argument as well. Bryson held the invention in *TQP Development* was detailed enough so as not to preempt the idea of encryption. Post-*Alice*, Bryson could have additionally argued that the invention applies an inventive concept to the idea of encryption to improve the functioning of the computer itself.

Takeaway

Applying encryption to an otherwise well-known computer function was found to lack patent-eligibility. However, a patent relating to a new, detailed algorithm was found to be patent eligible. This dichotomy shows the "inventive concept" reasoning at work and the overlap in patent-eligibility and novelty. *Alice* was clear that applying a computer to an abstract idea will not convert an otherwise unpatentable idea into a patentable invention. However, where that computer-related idea is detailed and novel, and improves the functioning of the computer itself, some courts have allowed such inventions to survive *Alice*.

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