Serialization, Traceability and e-Pedigree

K.I.S.S. – Keep It Simple & Sophisticated

Written, compiled and edited by:

Roy Cohen – CTO of CryptoCodex Ltd
Q@CryptoCodex.com
818-308-5414
Eddie Cohen – CEO of 6DCP
Eddie.Cohen@6DCP.com
818-570-1277
Reid Graves – Sr. Pharmaceutical Advisor, 6DCP
Reid.Graves@6DCP.com

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Background

Six Degrees Counterfeit Prevention LLC.

In 2011, Six Degrees Counterfeit Prevention, LLC (6DCP) formed a world-wide distributorship agreement with CryptoCodex LTD – Providers of Counter-Fight, the world's most secure and efficient counterfeit protection, diversion detection and track and trace solution to combat an industry that's estimated by the World Economic Forum, World Customs Organization, and others as a $1+ trillion per year industry and growing up to 30% annually. According to the World Health Organization (WHO), roughly 50% of all medicines purchased online are counterfeit. Some estimate that 10% of all medicines sold worldwide are counterfeit, which costs companies and governments over $200 billion. While the public's safety at risk, governments and companies worldwide are seeking solutions that will thwart and eventually disrupt this virally growing industry.

Legislation

The United States, the European Union and others are setting forth traceability legislation that will require pharmaceutical companies to provide package level serialization on all prescription medications. In order to comply with these initiatives, companies will be burdened with the financial impact of purchasing additional hardware (databases), database support, bandwidth and network. They'll need to hire additional security personnel, both IT and physical, additional space, and all other necessities.

The Problem

Databases. If it's connected to the internet, no amount of resources will keep a determined party from breaching the network. Organizations like the CIA, FBI, Lockheed Martin, Northrop Grumman, IMF, Sony, Citi Group, and more have all documented cases of private information being stolen by an individual or group of hackers. But that's not the only problem…

Seek time. Depending on the size of the database, seek time to identify and authenticate one (1) medicinal package can take a while. It's estimated by IBM that a seek time to locate one (1) unit in a 10 billion record database takes no less than 43 minutes. Lastly, with multiple authentications, the added burden could cause network traffic thus slowing down the response time even further. The traffic could lead the system to crash leaving the entire mechanism inoperable.

The Solution

6DCP and CryptoCodex will work with the pharmaceutical company to customize an anti-counterfeiting, track and trace and marketing acceleration solution that is EPCIS compliant and compatible with any database and/or reporting software. Once implemented in their facility, the company will maintain full control of our software.

Traceability made simple. Traceability through the supply chain is made possible by tagging each individual market package, carton and/or pallet with a unique encrypted identifier. A scanning event alerts the brand owner each time a shipment exchanges ownership. It captures the exact time, date, and geo-location of the pallet/box/unit when it is scanned - all in real time. Track and trace to the end user is achieved when a patient verifies the authenticity of the medicine with their camera phone (with any free 2D barcode application).

A good defense is a strong offense. Tagging each market package, carton and pallet with its own unique encrypted barcode provides corporate investigators, supply chain partners, customs officials, even patients with the ability to instantly verify the authenticity of a prescription. Destination codes included in the product help identify if it has been diverted. Lost or stolen merchandise can be "flagged" as well. Whether it's genuine, fake, diverted or stolen – real time metrics are gathered with each scanning event and can be data mined for personal use or reporting to enforcement agencies.

Online and Offline Solutions. With our system, patients can download any free 2D barcode reader directly onto their mobile device. In areas of the world where devices do not connect to the internet, the pharmaceutical companies can "push" a free reader directly onto the patient's phone. Whether it's over the internet or a secure SMS gateway, patient's all over the world can easily and quickly authenticate their medication.

Micro Database Less Encapsulation or MDLE.

With our system, we will empower the pharmaceutical company with the ability to encrypt and encapsulate relevant information right on the product. The information that would otherwise consume a single record in a database is encoded into a 2D data matrix, QR barcode, RFID, NFC, or a combination thereof. This is done through a process we refer to as **Micro Database Less Encapsulation (MDLE).** *Our solution provides instant savings by eliminating the need for extensive hardware, networking, maintenance, security and other resources. even before the first shipment leaves the manufacturing facility.*

What you will receive:

- An end-to-end solution ensuring patient safety and product authentication.
- A software as a solution built specifically to your company's specification. That requires little to no modification(s) to existing IT infrastructure.
- A technology that is approved for export by the Israeli Department of Defense.
- A solution that doesn't require special readers. Anyone with a camera phone can authenticate a market package.
- A solution compliant with any data sharing standards (GS1) as well as serialization, track and trace or e-Pedigree regulation(s).
- The ability to report on valuable information that can lead to improved logistics, operations, marketing, and so much more.
- A system providing alerts when product is diverted, stolen, or counterfeited. Such events will be immediately evident allowing enforcement agencies to be notified.

Key Differentiators

1) Stronger than military grade encryption that is approved for export by the Israeli Department of Defense. The only *non-mathematical encryption* in the world.

2) Micro Database Less Encapsulation. Substantially reduces IT infrastructure needs by securing the database record inside the barcode.

3) "A Million Eyes Inspector." By engaging the supply chain partners, and ultimately the end user (pharmacy, hospital, care provider, or patient) in the verification process, companies can expect to gain from an infinite network of private investigators all working together to identify and authenticate your products.

Summary

Counterfeiting. Diversion. Serialization. E-Pedigree. Track and Trace. Security.
These are just a few components of any organization that require an immense amount of strategic planning, substantial asset allocation, and a great deal of cooperation by employees, supply chain partners and consumers.

When partnering with 6DCP and CryptoCodex, pharmaceutical companies will benefit from years of experience in IT security, cryptography and track and trace. They will gain from a solution that will help to protect the reputation, value of goods, and revenue streams of the company. Most importantly, it will protect the health and safety of the patients. It will lessen the burden on law enforcement and reduce tax revenue loss to government caused by counterfeit and gray markets.

There's an old saying, "A good defense is a strong offense." We humbly declare that we provide the *only* weapon against counterfeiting.

Thank you for your time and consideration.

Best regards,

Eddie Cohen CEO
Six Degrees Counterfeit Prevention LLC
5737 Kanan Rd. #462
Agoura Hills, CA 91301
Email: info@6dcp.com
Website: www.6dcp.com
Phone: 818-570-1277
LinkedIn: www.LinkedIn.com/in/Encrypted