ID CARD SECURITY

SIX DEGREES COUNTERFEIT PREVENTION, LLC.

6DCP.com

ABOUT US

Six Degrees Counterfeit Prevention, LLC (6DCP) is a globally recognized anti-counterfeit and document security consultancy firm offering best-in- class solutions for 21st Century problems.

6DCP is an Authorized Distributor for CryptoCodex Ltd., providers of the most secure technology (US Patent No. 8914369) for detecting superfluous, falsified, or adulterated products, for detecting lost/stolen/diverted goods, and is track & trace ready to meet worldwide regulation.

SCAN

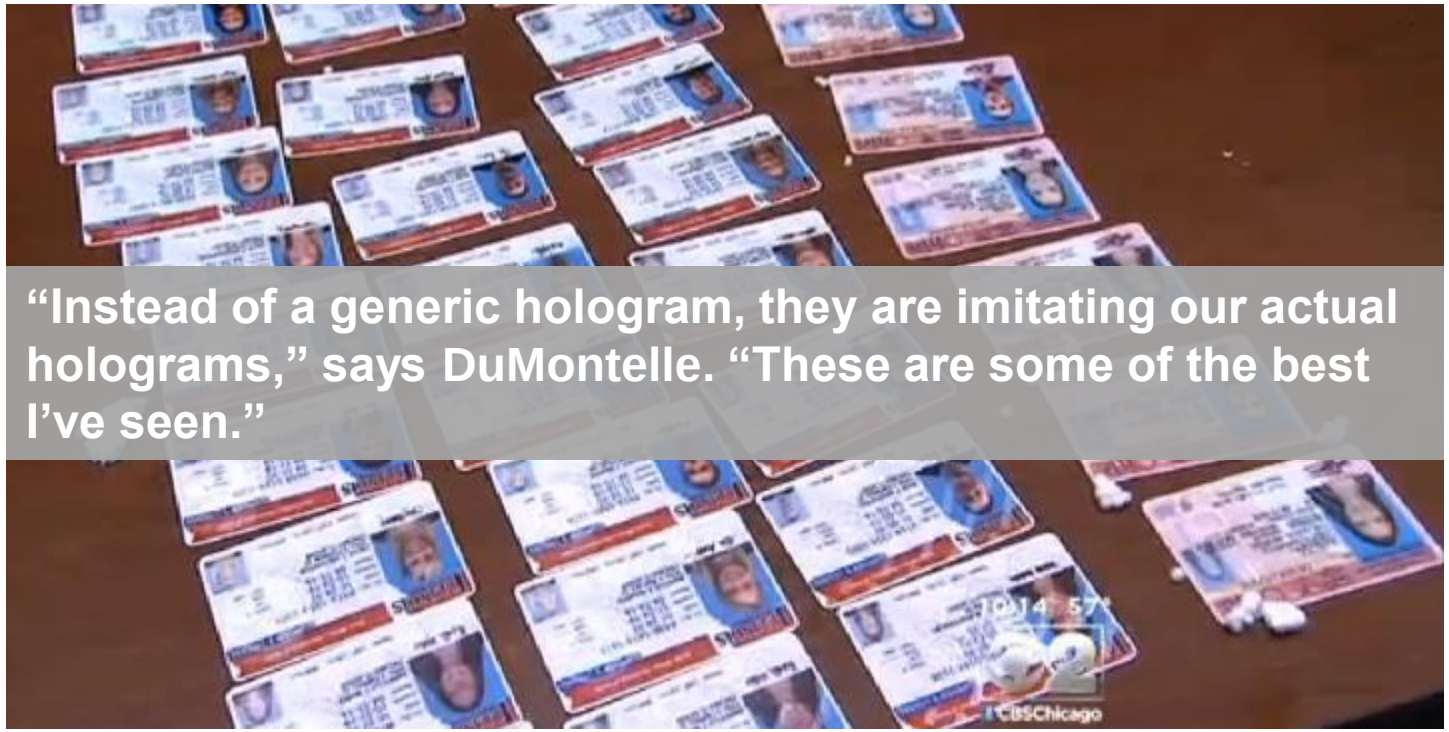
AUTHENTICATE

COUNTERFEIT PROTECTION
GREY MARKET DETECTION
TRACK & TRACE READY
BRAND LOYALTY
DOCUMENT SECURITY
ID/BIOMETRIC CARD SECURITY
CREDIT CARD SECURITY

FAKE IDS

The bad news is for those who are trying to catch fake licenses — these Chinese fakes are really good.

CBS Chicago reports that these overseas fakes are flooding through O'Hare. They're bought online in the US for about $150, produced in China, then smuggled into this country and back to the buyer.



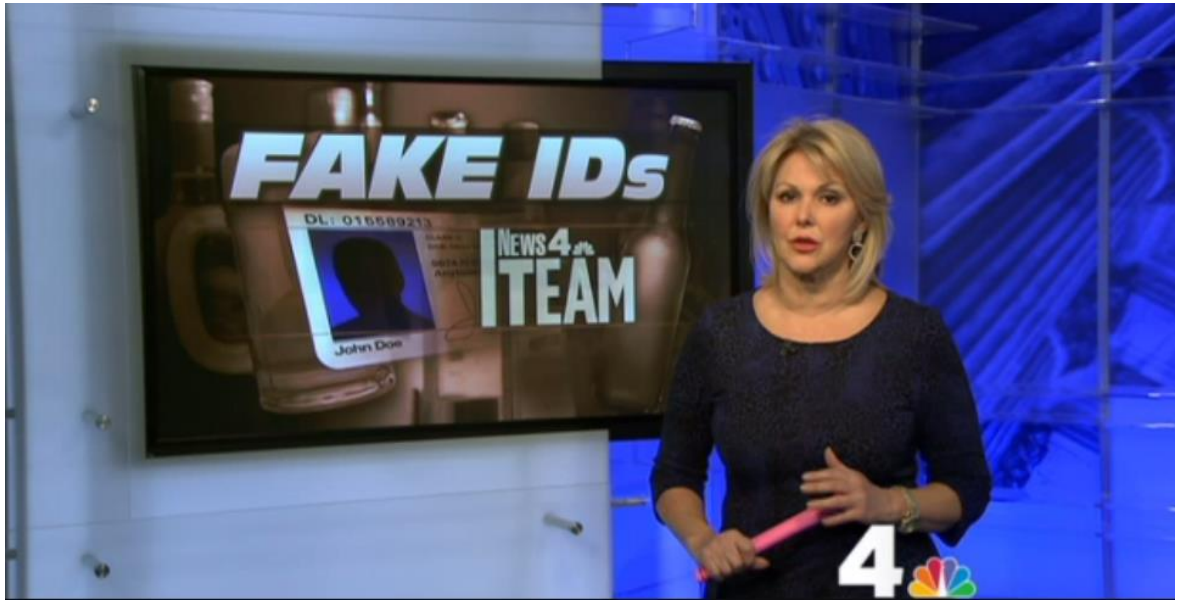
http://chicago.cbslocal.com/2014/09/22/2-investigators-china-floods-u-s-with-near-perfect-fake-drivers-licenses/

HOMELAND SECURITY ISSUES

Increasingly sophisticated identification raises Homeland Security concerns, Williams said.

"They look like the type of identification you'd go to the motor vehicle department and purchase, they're actually passing them as legitimate driver's licenses to police." - Montgomery County Police Sgt. Mark White.

"**Approximately 100 of those tested successfully deceived the machine, reading and displaying on the scanner as if authentic**."



A database of seizures by U.S. Customs and Border Protection shows a nearly **130 percent increase in seizures of altered or counterfeit travel documents** in Virginia, Maryland, D.C., southern New Jersey and Delaware. Those documents include altered passports.

http://www.nbcwashington.com/news/local/Some-New-Fake-IDs-Pass-as-Legitimate-Licenses-250266441.html

SECURITY SOLUTIONS

Security Solutions	Can Store Meaningful Data	Immune to Mathematical Attack	Database Less	Generates Business Intelligence	Consumer Engagement	Smartphone Authentication
MDLE	✓	✓	✓	✓	✓	✓
RFID / NFC	✗	✗	✗	✓	✓	✓
BARCODES	✗	✗	✗	✓	✓	✓
ANALOG**	N/A	N/A	N/A	✗	✗	✗

* MDLE – a CryptoCodex technology. US Patent No. 8914369
**Holograms, Security Papers, Taggants, DNA, UV Inks, etc.

THE PROBLEMS WITH DIGITAL AUTHENTICATION SOLUTIONS

1 - Any technology dependent on a database for online authenication will be breached. Period.

2 - Mathematical encryption or algorithms will be brute forced and cracked.

3 - Block chain can also be hacked and/or manipulated.

4 - Consumers will not download a specific app to serve a specific purpose.

5 - Consumers will never carry a peripheral device with them to authenticate products.

6 - Million Eyes Inspector driven by consumer engagement is the best line of defense.

THE WEAKEST LINKS

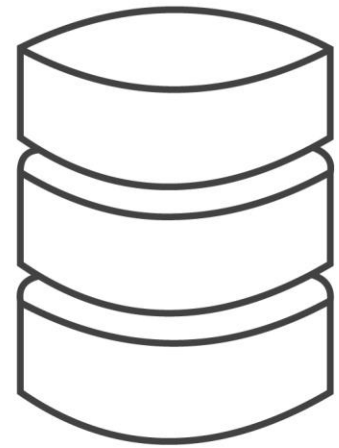
HTTPS://YOURCOMP.COM/1929527GB08A

COMPANY URL SERIAL NUMBER

2 Points of Failure:

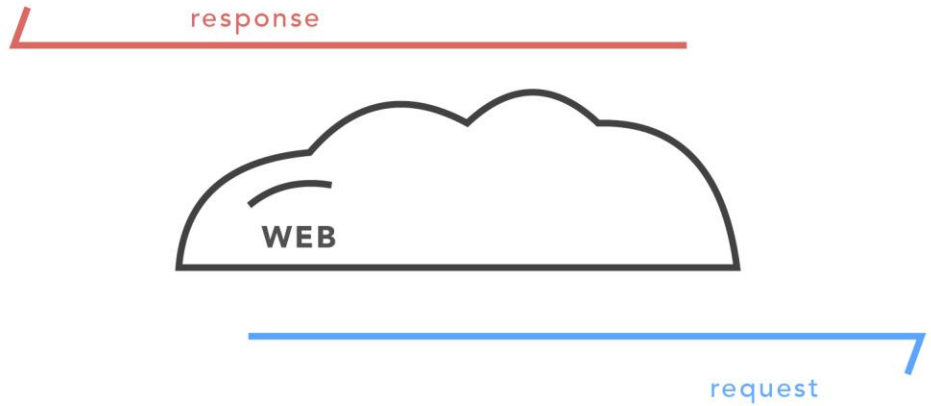
Random Number Generator – A mathematical process that generates a [pseudo] randomized serial number.

The Database – Hardware and software that centrally stores and manages sensitive (intellectual property) information.



DATABASE

TYPICAL AUTHENTICATION CYCLE



HTTPS://YOURCOMP.COM/1929527GB08A

COMPANY URL SERIAL NUMBER

THE HOLY GRAIL

SENSITIVE DATA
STORED ONLINE

WHAT DO THE FOLLOWING COMPANIES HAVE IN COMMON?

THEY'VE BEEN HACKED

THE SOLUTION: MDLE

PROTECTING THE MOST IMPORTANT INFORMATION ASSETS

WHAT IS MDLE?

MDLE is an evolutionary, fully customizable unique identification technology that empowers Government Officials, Corporate Inspectors, and Consumers with a simple and precise tool to verify the authenticity of their products.

MDLE is powered by a military grade and patented (US Patent No. 8914369) Encryption technology that is immune to mathematical attack and cryptanalysis.

CryptoCodeX

Technology

BENEFITS OF MDLE

- Low barrier to entry
- Seamlessly integrates into existing ERP and production environments
- Encrypts an entire database record into a 2D barcode or other data carrier
- Decentralizes sensitive information and eliminates need for a central database
- Adaptable to organizational standards and national regulations
- Varying levels of accessibility for inspectors, gov't authorities, and consumers
- Compatible with security labels and other covert security solutions
- Fully Customizable

Dual Layer
Security Solution

INTEGRATES INTO ANY ID ACQUISITION SOFTWARE

1. No additional education required to work with MDLE.
2. Entry fields “mirror” that of existing ID acquisition software.
3. Data entered into the fields are encrypted and encapsulated in an MDLE barcode.

DOCUMENT SECURITY

Sensitive information such as user's image and biographical data is encrypted within the barcode, not in an online database.

Authentication on a need to know basis.

Can be scanned with any device with a camera and 2D barcode reader.

distributed by

DEGREES

www.6dcp.com

ENCRYPTED | PROTECTED

provided by

CRYPTOCODEX

www.cryptocodex.com

COUNTERFEIT DETECTION SYSTEMS

MEDICAL CARDS/TAGS

- Can be printed on a card

- Can be scribed onto Military dog tag, emergency medical bracelet, or pendant

- Can be printed onto medical adhesive patch

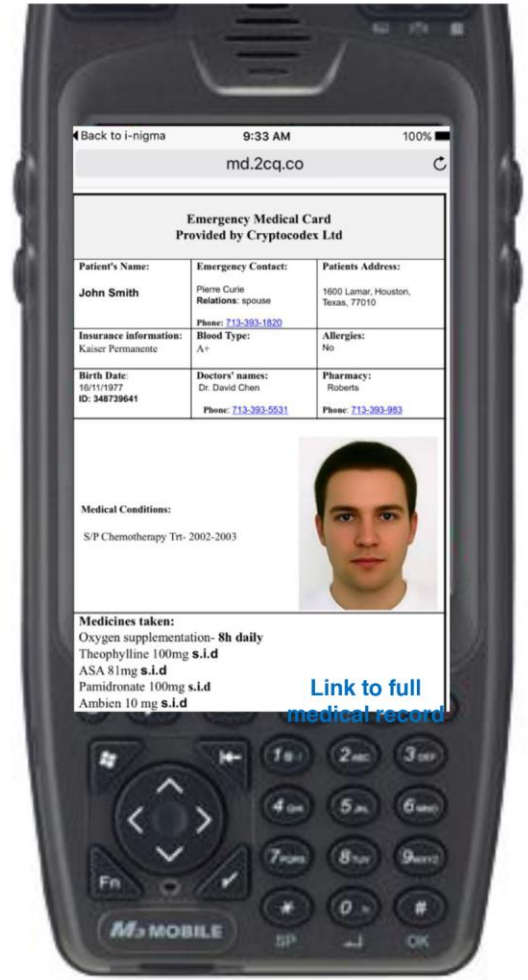
- Can be saved as digital card on mobile device

MDLE CONTENT

Patient's name, medical information, and emergency contact details

Medical condition(s)

Medication currently taking



One touch to dial relative, Doctor, or other

Patient's image

Link to ERP

BIOMETRIC AUTHENTICATION

Database Less Secure Access System

Fingerprint

Palm Vein

Iris Scan

IDENTYTECH solutions

The IDT-45 next generation dual iris imaging system provides unprecedented subject ease of use through a highly innovative and intuitive user positioning approach. Subjects will view their own face in a front-facing, high resolution 5.0 inch color display to position themselves correctly within the real-time graphic interface. They will intuitively and naturally move to the correct position by simply centering and sizing their face image to the box within the display. In addition, the positioning box and the top border turn green to indicate proper distance positioning, after which the iris biometrics images are automatically collected, provided that the real time image quality metrics are satisfied. Vocalized commands give additional positioning guidance in real time.

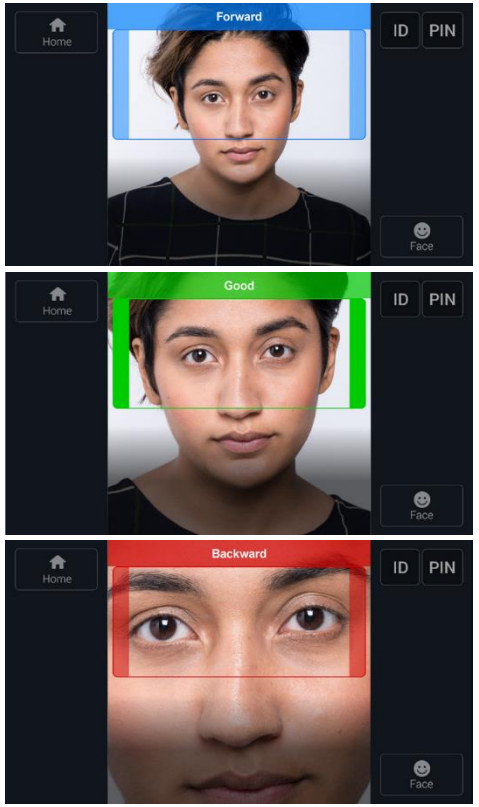
IDENTYTECH solutions

In addition, this system features an expansive capture range of 35 to 45 cm in enrollment mode. Now, capturing high quality iris biometrics images is fast, simple, and fully intuitive for all subjects, including non-acclimated ones. For small scale access control or time & attendance applications, the capture range can optionally be extended to 30 to 45 cm in recognition mode, further increasing positioning flexibility and ease of use.

The system also captures high quality face images simultaneously with iris image capture. On board face recognition is now standard.

Innovative, Intuitive Subject Positioning

The IDT-45's face imaging sensor detects and displays the subject's face at up to 1.0 meter from the system on the high resolution color display. The subject will naturally move toward capture range of up to 45 cm by simply making his or her face fit the positioning "guide box", which is the capture or focal range of the system. Vocalized instructions also command the user to move forward or back to get into range. When in the proper range, the guide box and top border turn green, indicating to the subject to stop and wait until the image capture process is completed. Like a smart phone "selfie" image, this interface is highly intuitive, with typical capture times of less than 1.0 second from proper positioning.



Move Forward
Out of range
Too far away at more than 45 cm

Good
Within proper imaging range

Between 35 cm to 45 cm

Move Backward
Out of range
Too close at less than 35 cm

KEY FEATURES

State-of-the-art optical design
Advanced, proprietary stereoscopic eye localization
Highest image quality Compact, lightweight design Simplest of user instructions
Stand-off distance of 35 to 45 cm in enrollment mode
Optional Extended Depth of Capture for iris authentication in recognition mode
Real time image quality metrics

The optical design includes utilizing highest quality optics and very fast shutter speeds, which allows the systems to exceed industry standards for image quality.
The EF-45 accurately locates in real time the position of both eyes in 3D to optimize subject ease of positioning and iris image quality. This feature enables the fast and reliable subject distance positioning indicators shown as blue, green or red color codes.
Meets or exceed the ISO 19794-6 2011 and ISO/IEC 29794-6 iris imaging specifications.
Optimizes placement or mounting options, including wall, swing-arm, or eGate mounting solutions.
Very simple and repeatable subject instructions:

- Position face within guide box in display (like smart phone "selfie")
- Move toward the system to size head to box.
- Once within range, the box and indicator bar will turn green to indicate proper positioning.

Capture is automatic once subject is in proper position and real time image quality metrics parameters are met.
Standard extended range ensures robust, fast and easy positioning. Comfortable range for subjects in wide variety of desktop, countertop, kiosk or wall mount placements.
Depth of capture can be extended to range of 30 to 45 cm in recognition mode (not necessarily ISO compatible). Intended for small to medium scale access control deployments. Selectable in SDK.
Image quality metrics included in capture algorithm:

- Subject gaze angle (i.e. whether the subject is looking directly ahead at the imager)
- Subject motion
- Focus
- Usable iris area (occlusion)

https://www.youtube.com/watch?v=aa0YGiUpNkY

IDENTYTECH solutions

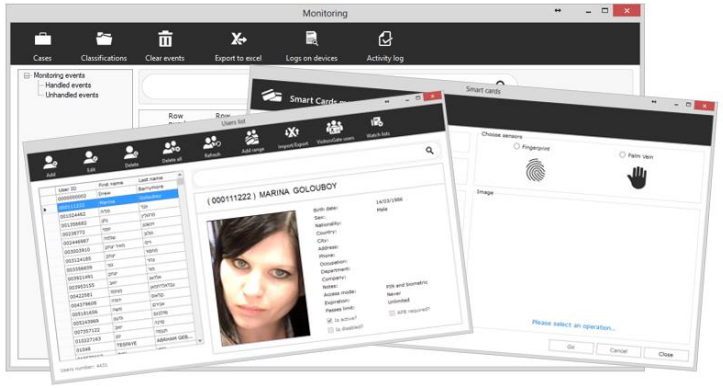
iDentyManage – Unified Management Platform

IdentyManage™ is a unified management software with seamless integration and interoperability between modalities.

Identytech's management software platform provides interfaces and operational uses with different technology partners to provide a fully encompassing security solution. Technology leaders that make some of the best advanced security systems in the world partner with us.

IdentyManage provides you with the ability to control all aspects of physical security (access control) and surveillance inside of one software interface. By combining multiple technologies under one "roof" we are able to increase the effectiveness of real-time monitoring by associating cameras to access control points to clearly monitor the security of the facility or building.

Amongst of many features IdentyManage provides you with an integrated Multi-Biometrics authentication platform, unified GUI for easy administration and control, Multi - screen operations, Real - Time alerts and event handling, on the fly commands and continuous flow of information.



iDentyManage - Modules

IdentyManage simplifies the security management and by adding modular plugins, can be expanded to provide a whole range of enterprise wide solutions providing a single source for complete site management.

The software functionality can be easily extended with the following modules:

- Surveillance system
- Intrusion detection
- Smart Cards Management
- Visitor management
- Facial recognition
- Badge design & printing
- Advanced reports generator
- License Plate Recognition

TECHNICAL SPECIFICATIONS

MILITARY GRADE ENCRYPTION

Patented encryption **(US Patent No. 8914369)** method that eliminates need to store sensitive information in an online database.

Encryption Key is truly chaotic.

Randomization, or PHR.

PHR is protected against Rainbow Crack, Dictionary Attack, Cryptanalysis and Brute Force.

ENCRYPTION – PERFORMANCE FEATURES

Key Strength - 1 million bit or more

400% faster when compared to AES.

MPU use - Mathematical Process Unit in CPU use 3% - 7%.

+/- 5% overhead of the file from original data set.

Capable of encrypting entire columns of a database (up to 300 characters) into one 2D barcode.

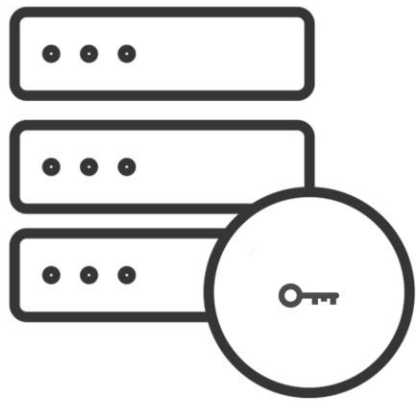
US Patent No. 8914369
www.6DCP.com/WhitePaper.pdf

THE IRON RING DATABASE LESS AUTHENTICATION

SECURE ONLINE ENVIRONMENT

MEANINGLESS DATA STORED ONLINE

Incoming Web Server



MDLE Decryption (Key) Server

The Decryption Server stores ONLY the keys to authenticate the MDLE label

The Decryption Server is protected by The Iron Ring, a revolutionary database less authentication method

Even if the Decryption Server is hacked, no sensitive information will be exposed

THE IRON RING

1. User scans the encrypted MDLE security label with their smartphone, tablet, laptop, or desktop equipped with a camera or webcam. The payload is extracted and sent for authentication.

2. The incoming web server receives the incoming encrypted payload and the user's return IP address and transfers it through a unidirectional data flow membrane.

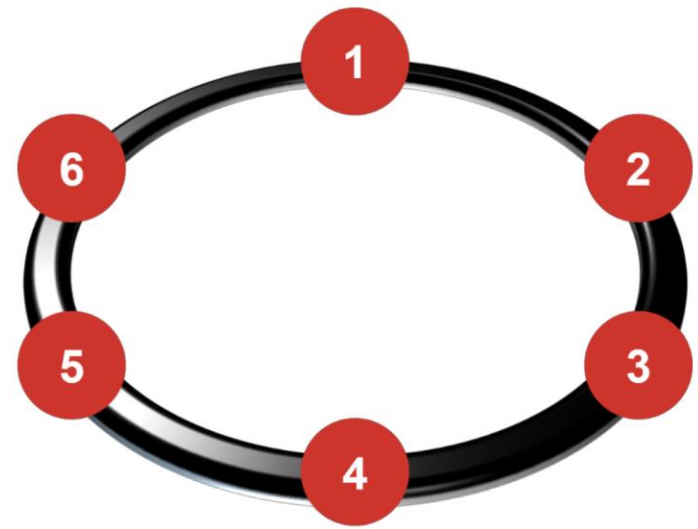
3. The first unidirectional data flow membrane* acts as a gatekeeper, and passes only payloads encrypted by the MDLE encryption server to the decryption key server.

4. The decryption key server, authenticates the encrypted payload, and logs the date, time, location, and IP address of every scanning event.

5. The authentication response is sent through an outgoing web server through a second unidirectional data flow membrane.

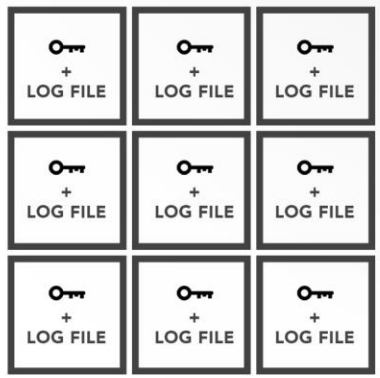
6. The second unidirectional data flow membrane* transfers the authentication response to the return address of the user which scanned the MDLE security label, and protects against malicious incoming attacks.

1. User receives authentication response.



* Hardware has been approved for use by the US Government to protect nuclear facilities and other ultra sensitive networks.

MDLE + BLOCKCHAIN

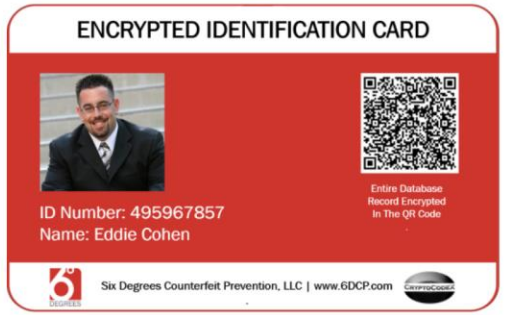


MDLE is compatible in a Blockchain environment.

Sensitive information is **NEVER** stored on any of the nodes.

Each node contains only the decryption key (to authenticate a request) and a log file (to log every scanning event: date, time, location, device ID).

MDLE PAYLOAD SEEKS KEY IN ORDER TO AUTHENTICATE THE DOCUMENT



DOCUMENT IS SCANNED, SENDING THE ENCRYPTED MDLE PAYLOAD TO THE MDLE IRONCHAIN

THE AUTHENTICATED DOCUMENT IS PRESENTED ON THE USER'S MOBILE DEVICE

WHAT THE EXPERTS SAY ABOUT US

"Defining drop shipments is an important issue. **There are novel low cost methods that guarantee product authentication as pennies per unit that cannot be reverse engineered.** Check out www.6dcp.com/track-and-trace".....**"While I did not work with Privacy Inside (now Cryptocodex) on this application, I did a preliminary analysis of their merging barcodes with PHR and found this approach a strong audit tool for counterfeit commercial goods" – Andre Szykier, Chief Scientist at Aegis Health Security**

"Simple is always better ... **by elimination of the perceived complexity in the authentication** world 6DCP products could be a pivot point that will help achieve a more reasonable following." **– Michael Agee (RIP), Brand Protection Specialist**

"Having come from a solution provider that used encryption based technologies for serialization, I was well aware of your company and knew the respect you have garnered for your technology. However, as I have come to know more about it through our discussions and demonstrations, **I am simply overwhelmed by the strength of your product. You are able to cover the three central tenets of brand protection in the most forceful way possible – security, scalability, and performance. – Dr. Avi Chaudhuri**

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