

Document Authentication for Identity Verification

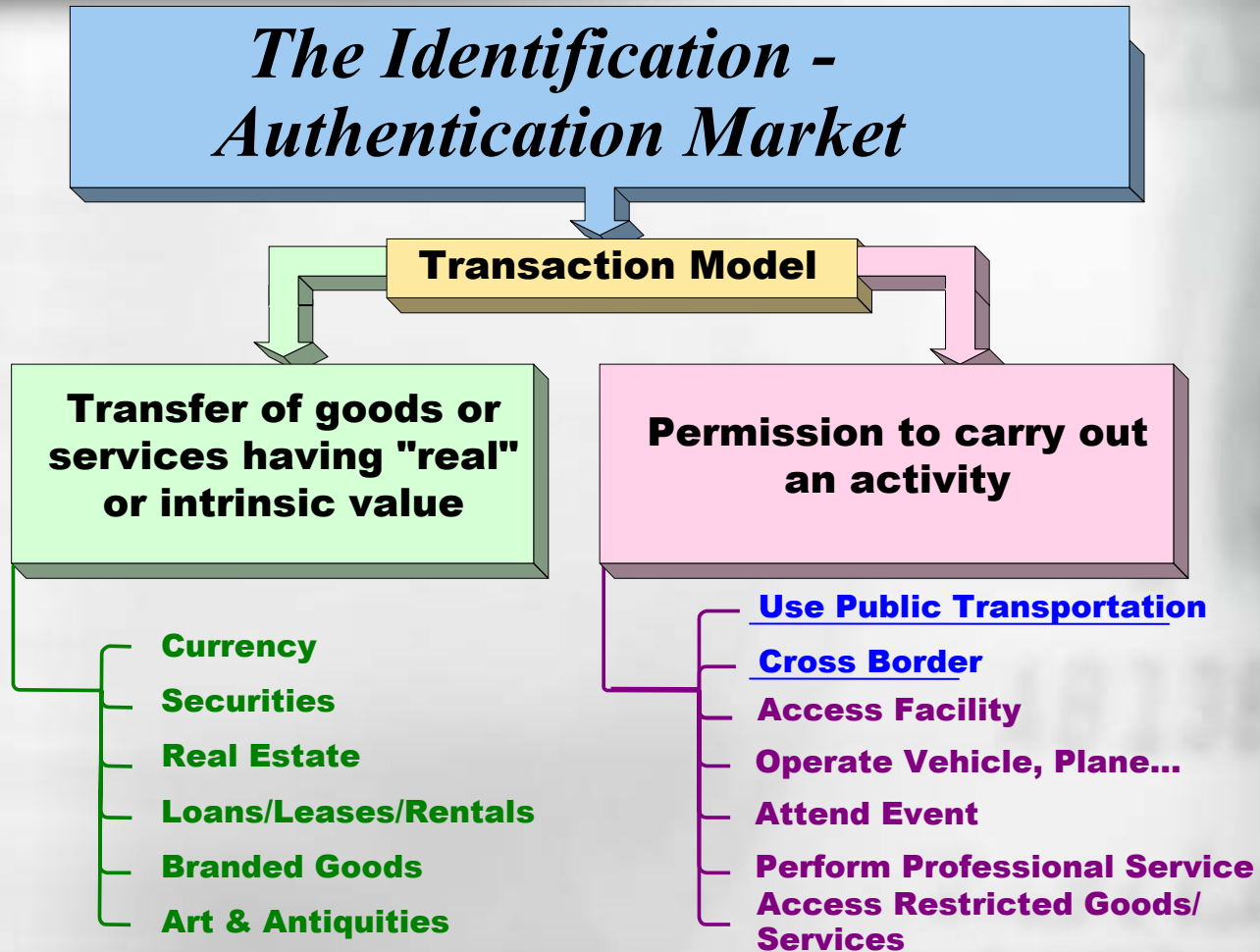
**GATF Advanced Security Printing Symposium
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AssureTec Systems, Inc.

- **The Company's mission is to become the premier provider of security solutions based on risk assessment.**
- **“Being safe is a matter of striking an intelligent and informed balance between locking ourselves away in a fortress, and being reckless ...”**

Quote from Walnut Creek, CA Police Dept. Website

The I-AM Market



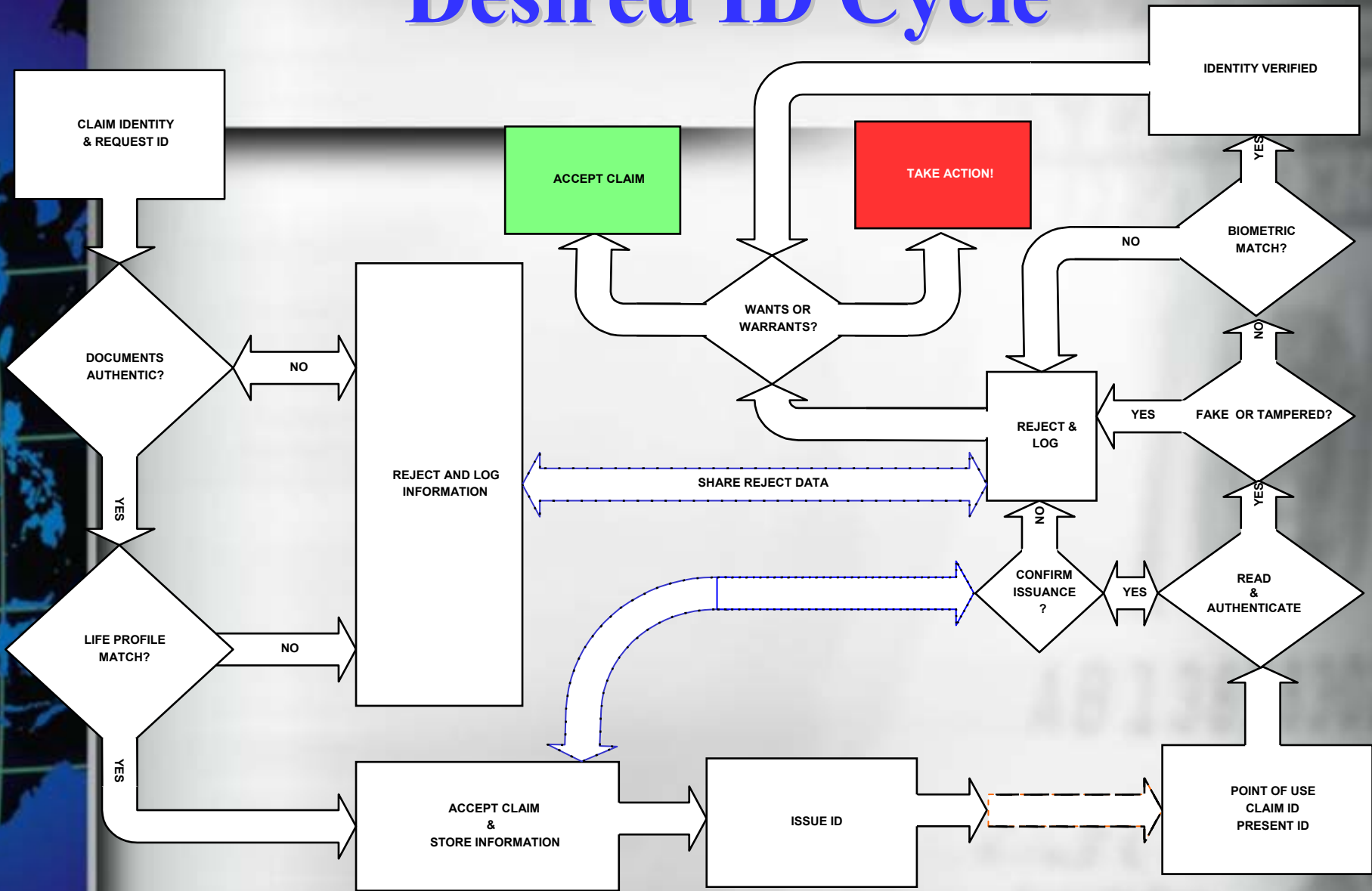
The Objectives

- **Intrinsic Value Transactions**
 - **Authenticate the Item or Title being transferred**
 - **Provide linkage to individual(s) in case of challenge to ownership rights**
 - **Security is import, but risk/liability is usually limited to the value of the goods transferred (except for pharmaceuticals, ...)**
 - **Time is important, but not typically a critical element**

The Objectives

- **Permission Transactions**
 - **Validate the entitlement to engage in the activity**
 - **Link the individual to the entitlement**
 - **Ensure that the entitlement has not been revoked or extenuating circumstances do not exist to challenge the entitlement**
 - **Security is of paramount since risk/liability is often measured in catastrophic terms**
 - **Time is often a major pressure**

Desired ID Cycle



Point of Use (POU) Considerations

- **Physical Environment**
 - Space
 - Heat/cold
 - Lighting
- **Distortions**
 - Document wear/aging
 - Presenter aging, appearance

POU Considerations

- **Time Pressures**
 - **Peak throughput periods**
 - **Individual wait period tolerance for detail evaluation/questioning**
- **Exception Handling**
 - **Easily supported by physical layout**
 - **Staffed for efficiency**

POU Considerations

- **Human Vulnerabilities**
 - **Boredom**
 - **Collusion**
 - **Distraction**
 - **Intimidation**
 - **Memory retention**
 - **Just plain “bad” days**

What Needs to Occur at the POU?

- **Collection of Data** – from the document presented and/or from the individual.
- **Authentication** – of the document presented.
- **Matching** – the individual with the photo or other biometric contained on the identification document

Why?

SECURITY, SECURITY, SECURITY!

- **Collection of Data**
 - For historic, present and future data comparisons
- **Document Authentication**
 - To validate the entitlement being granted
- **Matching of Individual to Document**
 - To verify that the data and entitlement belong to the presenter

Ultimately to determine that there is not an unacceptable risk in granting the entitlement.

How Technology Can Help

Better Efficiency

- Faster data collection and comparison
- Faster document authentication

Enhanced Security

- More accurate, secure and reliable data collection
- More complete, accurate, and reliable document authentication
- More reliable matching of presenter to document and “watch” lists

READ THIS AS AUTOMATION

Objective Performance Measurement

- **Accuracy**
 - **Data collection**
 - **Feature/biometric comparison**
- **Completeness**
 - **Documents supported**
 - **Feature tests supported**

Objective Performance Measurement

- **Flexibility**
 - **New documents**
 - **New features**
 - **New/layered biometrics**
- **Speed**
- **Reliability**
- **Cultural Acceptance**

The “TOOLS”

- **Inspectors**
- **Documents**
- **Biometrics**
- **Security Features/Devices**
- **Data/databases**
- **Electronic support**
 - **Smart cards, readers, RFID, processors, authenticators, networks, ...**
- **Analysis methodologies**

Necessary But Not Sufficient

- **Inspectors are good at detecting telltale signs in human behavior. They are not very good at other tasks.**
- **Biometric technology helps link presenter to document, authorization records, and “watch” lists, but does not help with behavioral indicators or data collection**

Necessary But Not Sufficient

- **Readers and authenticators help collect data, validate authorization, and collect images for comparison, but need automated biometrics and/or inspectors to link to the presenter.**
- **Databases and analysis processing provide checks and risk assessments but need other “tools” to collect and link the information**

Necessary But Not Sufficient

- **Secure Documents seal data and biometric information, but need to be read and used by other “tools”**
- **Security devices protect the integrity of the information on the document but need diligent verification by the inspector (overt) and authentication devices (covert) to actually accomplish this goal.**

New Technology Emerging

- **Security Features**
- **Biometrics**
- **Reader/authenticators**
- **Document data storage/intelligence**
- **Networks and databases**
- **Analysis software**

Security Features

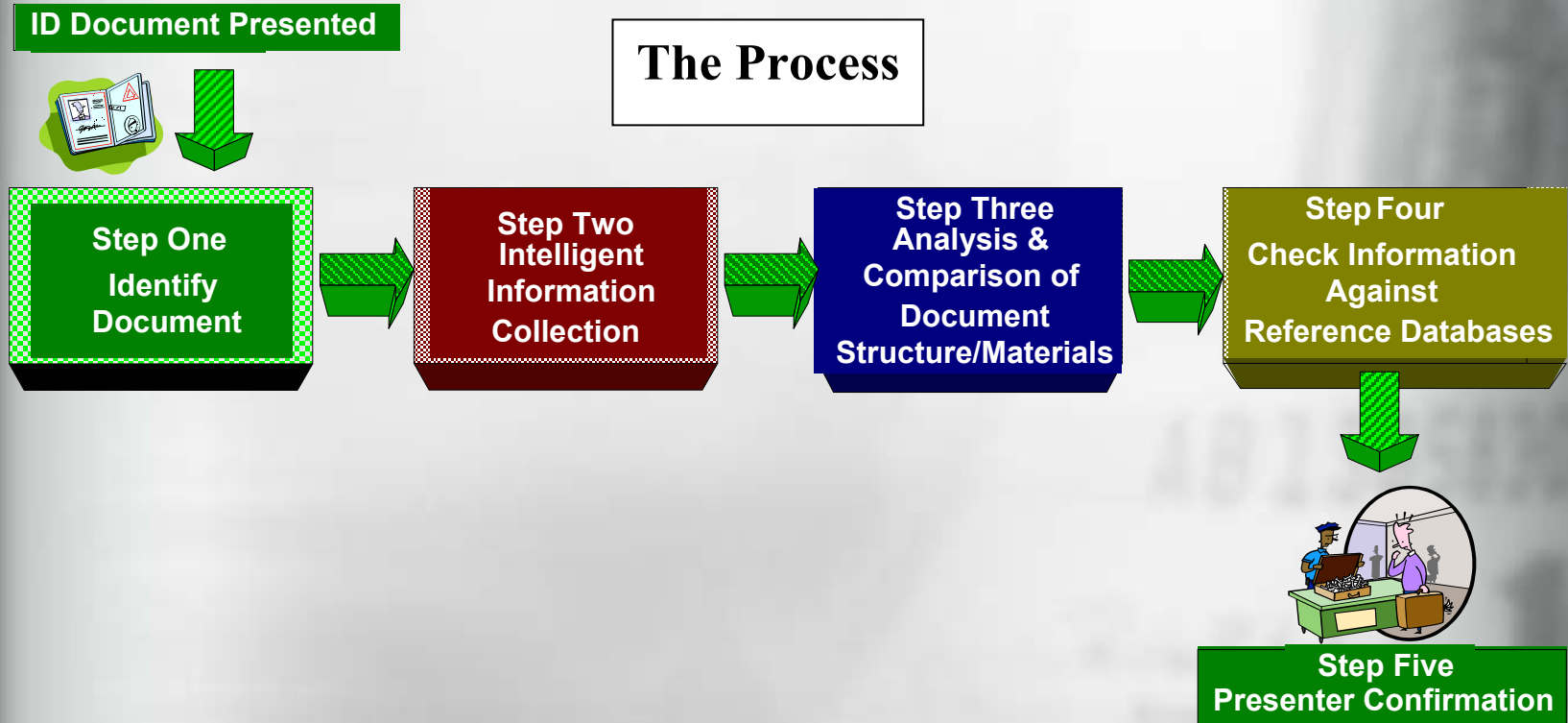
- **Need Automated Fast, Reliable, Self-auditing Verification**

Biometrics

- **Need Automated Fast, Reliable, Self-auditing Verification**

Reader/Authenticators

- **Need to Provide Automated Fast, Reliable, Self-auditing Authentication**



Capture Image



Identify & Read Data

[iIdentify]

doc=DL

num= 013 000 555

state=NY

dob=05-05-66

statename=New York

sex=M

**docname=Driver
License**

doe=05-05-02

doi=07-15-97

Subtype=RESTRICTED

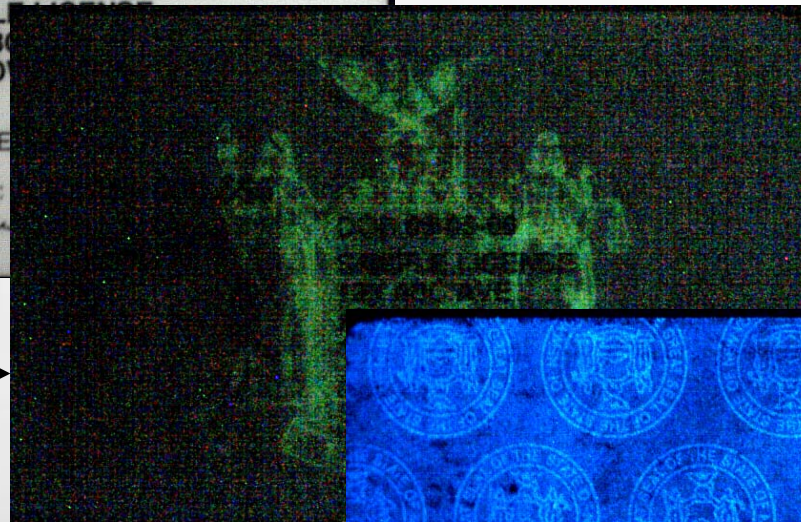
priid=SAMPLE

secid=LICENSE

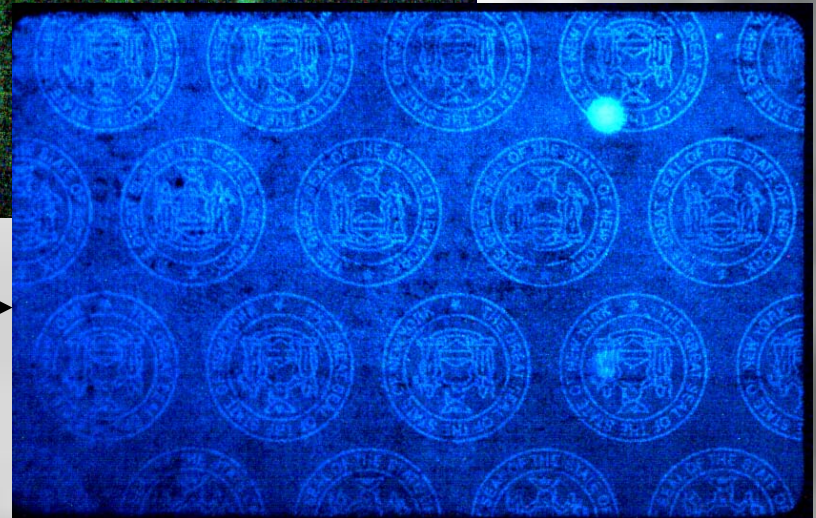
Check Security



← IR Image



UV Image →



Coaxial (Retroreflective) Image →

OVD Example

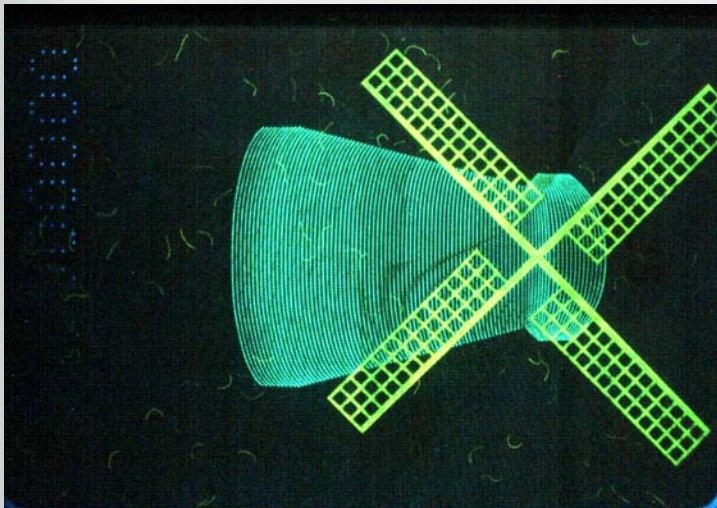
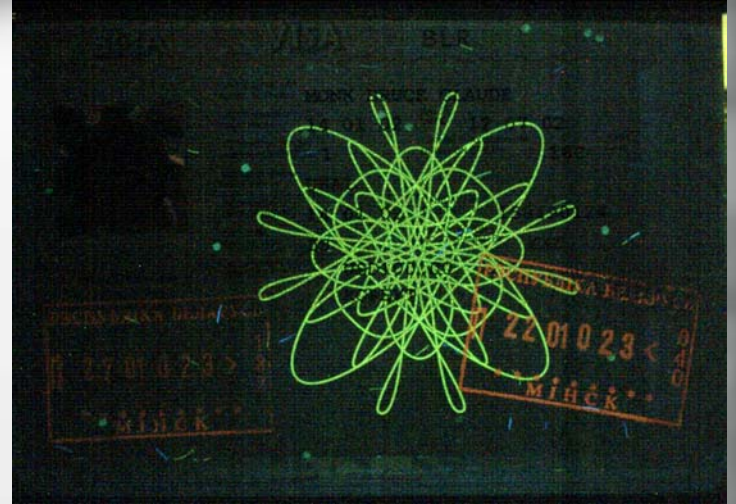
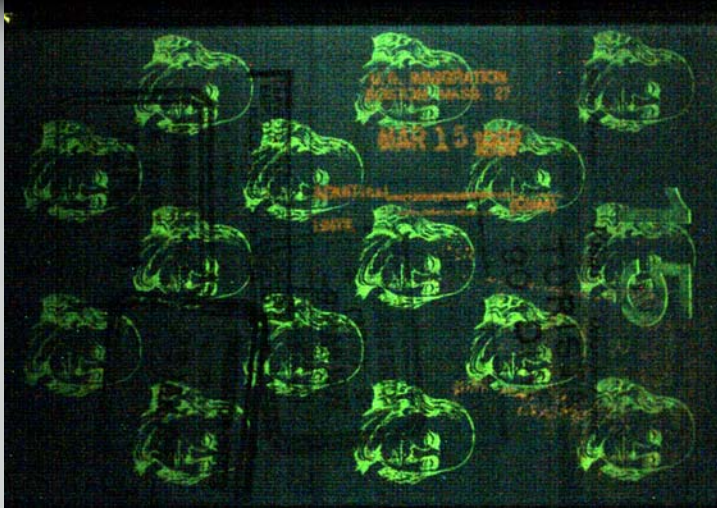
(Optical Variable Device)



OVD Detection

OVD Suppression

Other UV Examples



10/7/2003

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Identification Process Summary

- **Identify document type and read data**
- **Collect information from document**
- **Evaluate probability of authenticity**
- **Reference-check information**
- **Present biometric for comparison**
- **Determine risk against established entitlement paradigm**

Document Data Storage/Intelligence

- **Helps Provide Automated Fast, Reliable, Self-auditing Verification**
- **Watch for - MicroElectroMechanical System (MEMS) technologies and MEMS devices that enable microsystem solutions**
 - **Imagine machines so small they are imperceptible to the human eye.**
 - **Imagine working machines with gears no bigger than a grain of pollen.**

Networks and Databases

- **Help Provide Automated Fast, Reliable, Self-auditing Verification**

Analysis Software

- **Helps Provide Automated Fast, Reliable, Self-auditing Verification through Behavioral Pattern and Cross Referenced Data Matching.**

Conclusions

- **No single component is sufficient to provide a solution**
- **Human vulnerabilities must be minimized for any real improvement**
- **Efficiency in resource utilization is key to true risk reduction**
- **Each component must be evaluated in terms of its net impact on the performance of the system**

Conclusions

- **Each component change must be viewed pragmatically in terms of what it improves and what potential vulnerabilities it creates for a true net benefit analysis**
- **There is no need to wait for implementation of new technology to improve security today.**
- **Technology costs are not the bulk of the implementation costs/time.**

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