

# A Framework for Authentication

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# The International Authentication Association (IAA)

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- 20+ Members
- Users and Providers of Authentication
- International - US & Europe
- Goals:
  - Promote education & understanding
  - Create dialog - improve practice
  - Voice for the Authentication Community
- Members include:
  - J & J, DuPont, 3M, Honeywell
- Patron Program in 2009
- [www.intlaa.org](http://www.intlaa.org)



# Why The Need for a Framework?

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- Lack of common:
  - Terminology
  - Understanding
- Effective standards development limited
- Try to reduce a complex subject to elements which can be communicated and understood
- Needs to be applicable to all situations & actionable in real-world situations
- A tool for strategy development, decision making and implementation

# What Does It Mean to “Authenticate”?

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- Informed questioning and examination
- A “**trial**” billions of times per day
- Legal implications:
  - Seizure
  - Prosecution
  - Liability

**authenticate** | ô  
'θenti,kāt | verb  
[ trans. ] **prove** or  
show (**something**,  
esp. a claim or an  
artistic work) **to be**  
true or **genuine**

# A Trial Relies on a Presumption and Evidence

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- What is, or should be, the presumption when it comes to the status of an item:
  - Authentic until proven fake
  - Fake until proven Authentic
- To prove either, you need evidence
- And you need to cross a point (**Threshold**) where you can reasonably believe you have “proved” one way or the other

**evidence** | 'evədəns |  
noun the available body of facts or **information** indicating whether a belief or proposition is **true** or valid

# Authentication Requires Evidence

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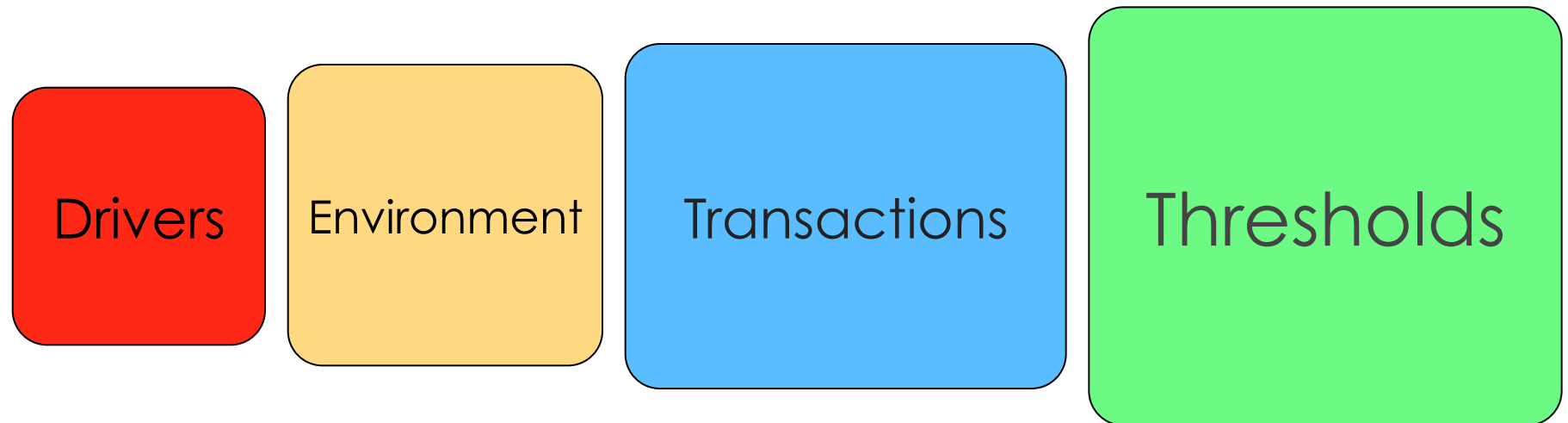
The presentation of evidence is governed by State and/or Federal Rules of Evidence and/or case law, but in general there are at least six things that have to be proven in these cases:

1. That plaintiff's goods are authentic;
2. Why plaintiff's goods are authentic;
3. Defendant's goods are not authentic;
4. Why defendant's goods are not authentic;
5. Why defendant actually knew the goods were not authentic, and/or
6. Why defendant should have known the goods were not authentic.

From: The Legal Framework for Authentication – M. Kelly Tillery  
Authentication News, July 2006

# Elements of the Framework

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# Example for Today

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## Transaction Acceptance Process

- Clear example of the Framework
- Uses both sensory and digital tools
- Supported by clear & concise training
- Ubiquitous



# Drivers for Authentication

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- A few truths about Authentication:
  - Authentication is **inconvenient**
  - Authentication has a **cost**
  - Authentication requires **training**
- It's not a voluntary act - it needs some motivation or "**driver**" to compel it to happen
- In most places / cases where authentication "works" today it works because it's **mandatory**
- Drivers can be:
  - Legally based
  - Safety based
  - Value based

## **Fighting fraud in every transaction**

If you are a card-present merchant, take the following steps to ensure the legitimacy of every Visa card, cardholder, and transaction.

***Under the Visa U.S.A. Inc. Operating Regulations, merchants or their sales associates must check the card security features, request an authorization, and obtain the cardholder's signature.***

# Environment

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- An authentication "environment" is:
- The whole of the influences surrounding any authentication transaction, which can/do effect the viability and effectiveness of the transaction
- Elements include:
  - What is being authenticated - physical, digital, people?
  - Venue
  - Examiners
    - Their level of training and motivation
  - The tools and technologies available
  - Time available
  - When is it necessary / desirable to authenticate
  - The costs, in both money and other resources, of authentication

# Effect of Environment

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- The environment for an authentication transaction sets the boundaries for what's possible
- While a driver can set the rules, they will always be governed by the realities of the environment in what can be practically achieved in an authentication transaction and how high the threshold can be
- Example: FDA with RFID & pedigree

# Authentication Tools

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- Intrinsic Authentication Tools
  - Functional or aesthetic elements of the product not intended for authentication
  - Could include:
    - Specific materials
    - Unique construction features
    - Stitching
- Extrinsic Authentication Tools
  - Added for the primary purpose of authentication
  - Sensory tools
    - Overt
    - Semi-Covert
    - Covert
    - Forensic
  - Digital tools
    - Serialization
    - Bar Codes

# Tools Need Training

## Visa card features and security elements

[Back to introduction](#)

Mini Dove Design Hologram on Back



Dove Design Hologram on Front



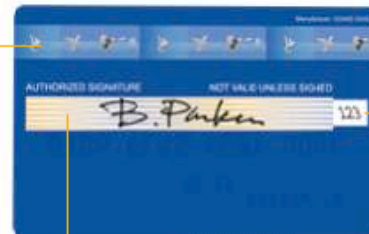
Flag and Dove Design Hologram on Front



## Cards with Visa Holographic Magnetic Stripe on Back of Card

Roll over card to view front

The **Holographic Magnetic Stripe** should have a ring around the sun when the card is moved from side-to-side. The word "VISA" should appear in the center of the sun when the card is tilted.



The **Signature Panel** has an updated tamper evident design, as shown here, or has a custom design.

If someone has tried to erase the signature panel, the word "VOID" will be displayed.

**Card Verification Value (CVV2)** is a three-digit code that appears either on the signature panel or on a white box to the right of the signature panel. Portions of the account number may also be present on the signature panel. CVV2 is used primarily in card-not-present transactions to verify that the customer is in possession of a valid Visa card at the time of the sale.

# Fit to User Objectives

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	Brand Integrity	Detection / Discernment	Market Intelligence	Seizure	Prosecution
Overt	Good Fit	Good Fit	Partial Fit	Good Fit	Partial Fit
Semi-Covert	Poor Fit	Good Fit	Partial Fit	Partial Fit	Partial Fit
Covert	Poor Fit	Good Fit	Partial Fit	Partial Fit	Good Fit
Forensic / In Product	Poor Fit	Partial Fit	Poor Fit	Poor Fit	Good Fit
Track & Trace / Digital	Partial Fit	Good Fit	Good Fit	Partial Fit	Partial Fit

Good Fit	Good Fit
Partial Fit	Partial Fit
Poor Fit	Poor Fit

# Fit to User Groups

	Public	Company	Supply Chain	Customs	Police	Attorney	Judge & Jury
Overt	Green	Green	Green	Green	Green	Green	Green
Semi-Covert	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
Covert	Red	Yellow	Yellow	Yellow	Yellow	Green	Green
Forensic InProduct	Red	Yellow	Red	Red	Red	Green	Green
Track & Trace	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green

# Transaction

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An authentication transaction is the deliberate interaction, using a specified process, in relation to the examination of an item with respect to its authenticity



# Transaction Example

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## Quick steps to Visa Card acceptance

1. **Check the card security features (listed below).** Make sure that the card has not been altered.
2. **Swipe the stripe.** Swipe the card through the terminal in one direction only to obtain authorization.
3. **Check the authorization response.** Take appropriate action for the specific response:

<b>Response</b>	<b>Action</b>
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Approved	Ask the customer to sign the sales receipt.
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Declined	Return the card to customer and ask for another Visa card.
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Call or Call Center	Call your voice authorization center and tell the operator that you have a "Call" or "Call Center" response. Follow the operator instructions.
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Note: In most cases, a "Call" or "Call Center" message just means the card Issuer needs some additional information before the transaction can be approved.

Pick Up	Keep the card if you can do so peacefully.
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No Match	Swipe the card and re-key the last four digits. If "no match" response appears again, keep the card if you can do so peacefully. Request a <u>Code 10</u> authorization.
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4. **Match the numbers.** Check the embossed number on the card against the four digits of the account number displayed on the terminal.
5. **Request a signature.** Have the cardholder sign the transaction receipt.
6. **Check the signature.** Be sure that the signature on the card matches the one the transaction receipt.

# Authentication Threshold

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- An authentication threshold is:
- the recognized point where the examiner in an authentication transaction
- using an agreed set of tools
- and an agreed process
- **judge** an examined item to be authentic

# What Can We Learn?

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- More evidence / more certainty
- Need a range of tools
  - One tool cannot provide certainty, nor be applicable in all situations & with all user groups
- Information that needs to be shared:
  - Specific toolsets
  - Order of examination
  - Reference examples

# Thanks

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