



Knowledge-Based Authentication Symposium

Information Sources and Metrics

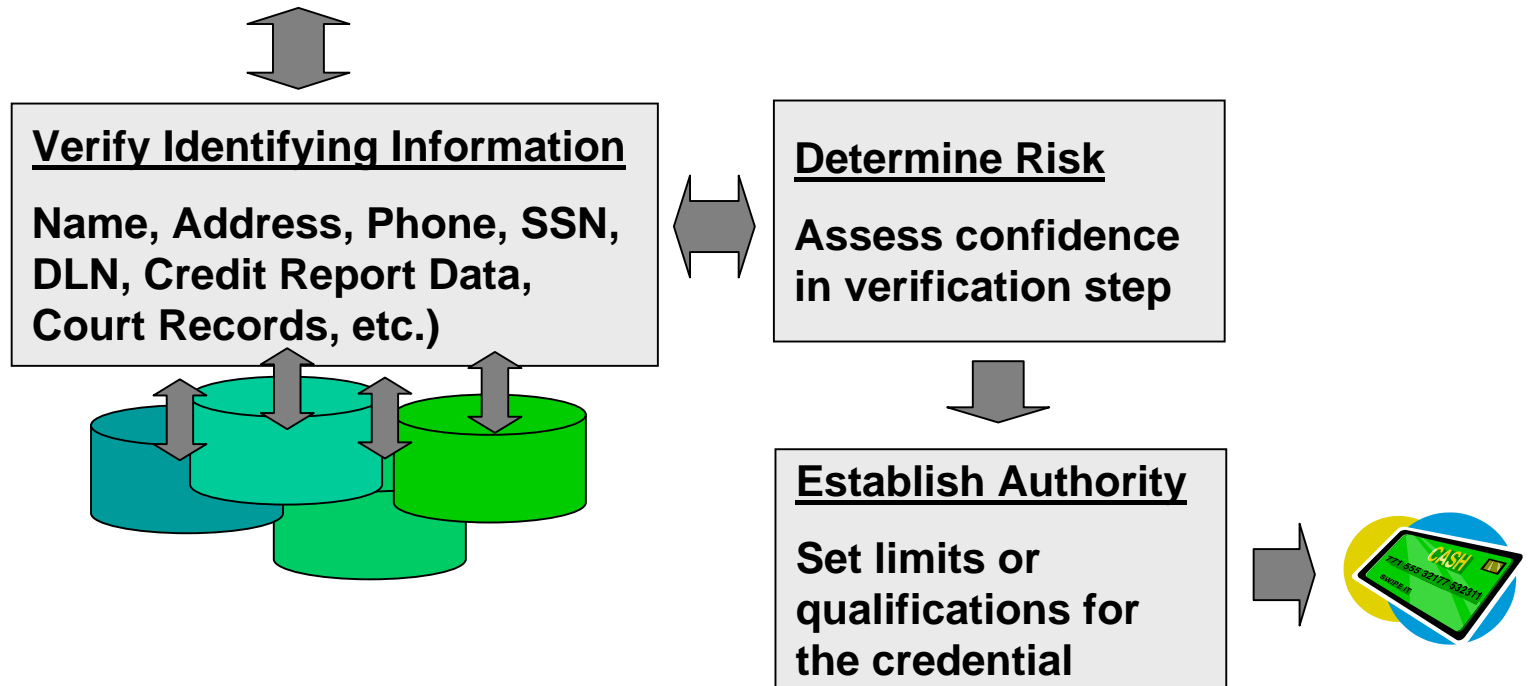
Authentication Processes & Risk Decisions

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Identity Proofing and Registration



Knowledge-based verification of credentials when issuing a new credential or replacing/renewing an existing credential



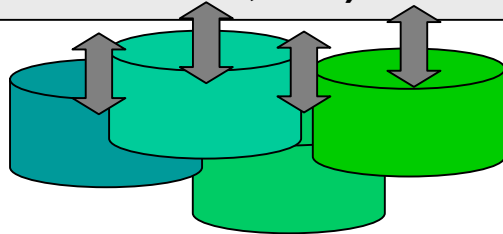
Identity Proofing and Registration



↓ **Match**

Verify Identifying Information

Name, Address, Phone, SSN, DLN, Credit Report Data, Court Records, etc.)



Match Considerations

- Using multiple variables improves accuracy
- Inconclusive match may require additional data
- Using multiple sources improves match rates and increases costs
 - Positive verification
 - Negative verification
- Name based matches require sophisticated algorithms

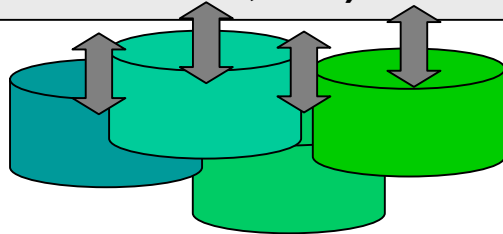
Identity Proofing and Registration



↓ **Match**

Verify Identifying Information

Name, Address, Phone, SSN,
DLN, Credit Report Data,
Court Records, etc.)



Match Considerations

- A knowledge-base on known fraudulent situations should be developed and included in the verification process
- Ease and cost of proofing versus the risk associated are always considerations

Identity Proofing and Registration

Risk Assessment Considerations

- What errors are most likely – false positives or false negatives?
- Who will bear the consequences of a bad decision – the government or the individual?
- What other information could be used to raise the confidence? Is it cost effective to use it?
- Determine a threshold score for each outcome available.

Verify Identifying Information

Name, Address, Phone, SSN, DLN, Credit Report Data, Court Records, etc.)



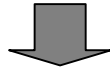
Determine Risk

Assess confidence in verification step

Identity Proofing and Registration

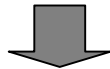
Determine Risk

Assess confidence in verification step



Establish Authority

Set limits or qualifications for the credential



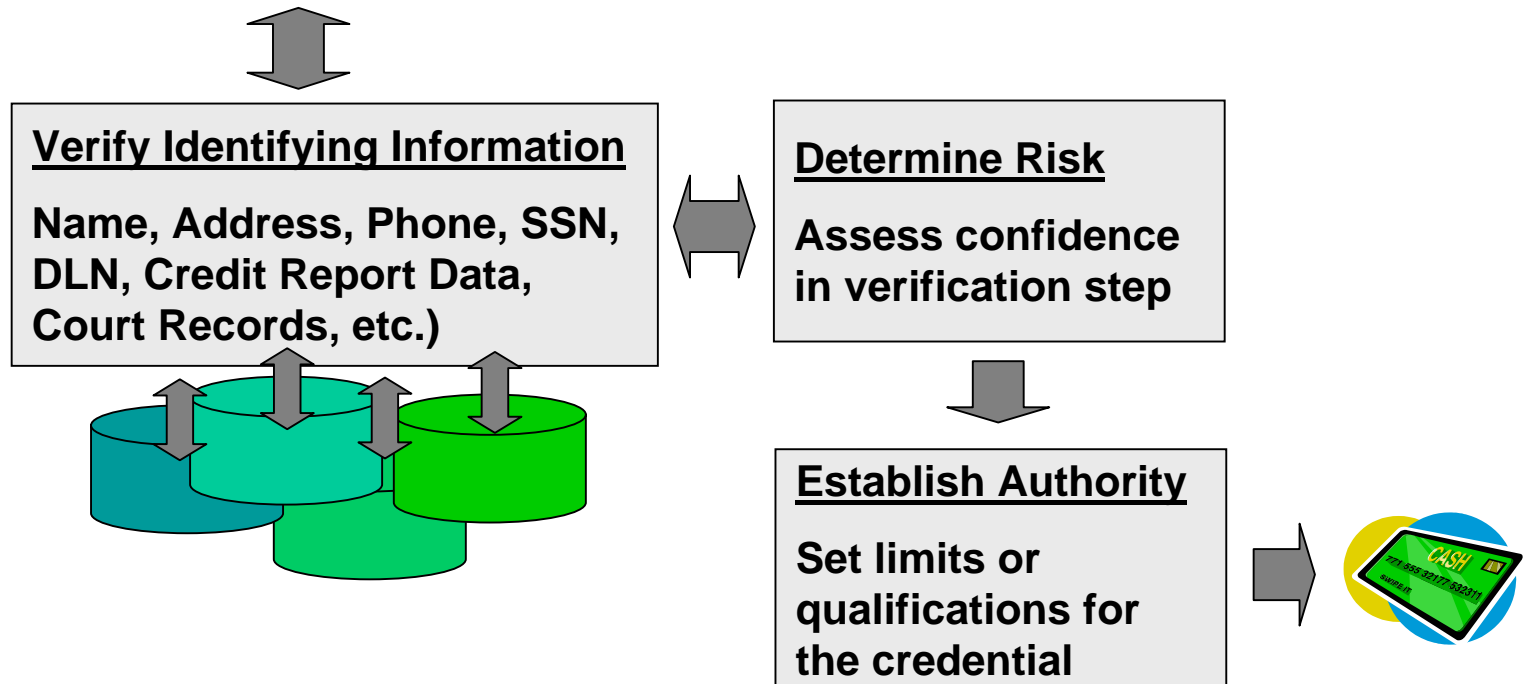
Authorization Considerations

- Authorization limits should be consistent with confidence
- The length of time before replacing or renewing may vary based on confidence
- Further checks may be done after the credential is issued

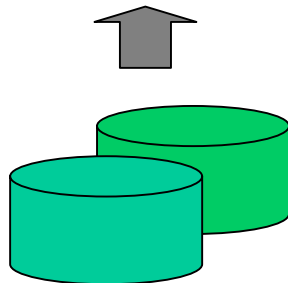
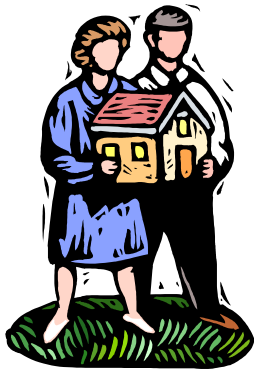
Identity Proofing and Registration



Appropriate recourse should exist for anyone who wishes to challenge the authentication limits that are set.



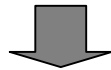
Keeping Credentials Current



The Problem

- 20% of the population moves every year
- 5% of households have a second home
- 5 million marriages every year (most women change their name)
- 2 million divorces (more women are changing their name again)
- 8.7% of the population die every year

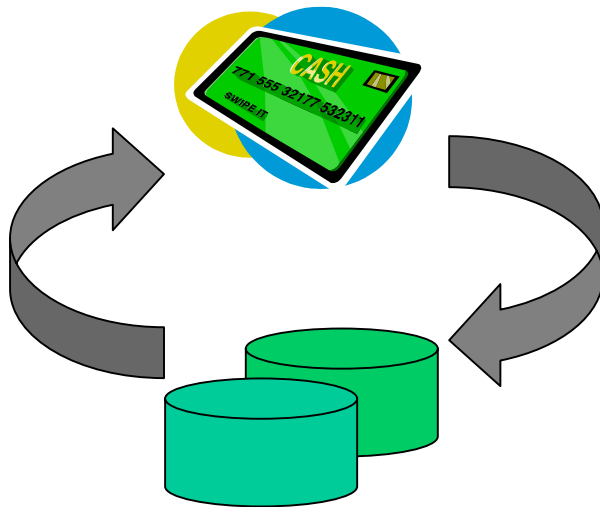
Using a Credential in a Transaction or Activity



Other Considerations

- When the credential is issued, confirmation may be mailed or e-mailed to an address on record
- When registration information or authorization limits are changed, notice of such change may be mailed or e-mailed to an address on record

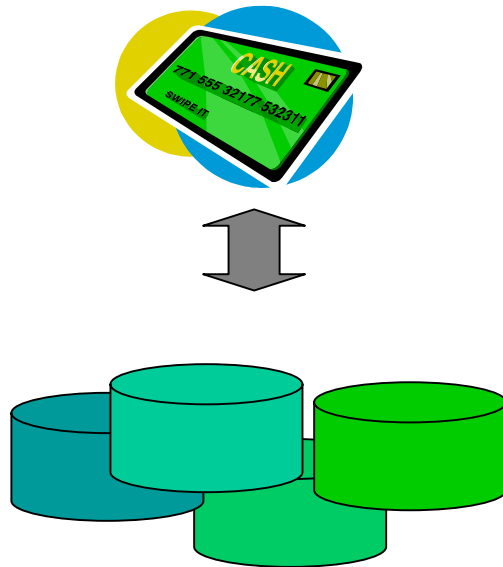
Using a Credential in a Transaction or Activity



Use Considerations

- When the credential are used some record of transactions and other activity may be necessary in order to determine unusual patterns of activity indicating fraud
 - An unusual transaction/activity
 - Unusual pattern of multiple transactions/activity
- Tracking known fraud situations to improve proofing and registration activities and sources of verification

Roll of Knowledge-Bases in Authentication



- **Proofing and registration**
 - Verifying identifying information
 - Detecting known fraud
 - Making risk assessments
 - Setting authorization levels
 - Redress for consumers
- **Use of credentials**
 - Identifying changes
 - Detecting fraud