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

- Verify Identifying Information
  Name, Address, Phone, SSN, DLN, Credit Report Data, Court Records, etc.

- Determine Risk
  Assess confidence in verification step

- Establish Authority
  Set limits or qualifications for the credential
Identity Proofing and Registration

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

Verify Identifying Information
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Identity Proofing and Registration

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

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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.

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<tr>
<th>Verify Identifying Information</th>
<th>Determine Risk</th>
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<tbody>
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<td>Name, Address, Phone, SSN, DLN, Credit Report Data, Court Records, etc.)</td>
<td>Assess confidence in verification step</td>
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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.

Verify Identifying Information
Name, Address, Phone, SSN, DLN, Credit Report Data, Court Records, etc.

Determine Risk
Assess confidence in verification step

Establish Authority
Set limits or qualifications for the credential
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