Models of Knowledge Based Authentication (KBA)

Revised February 2004
Summary

- Working KBA Definition:
  - Past
  - Current

- Generic KBA Model:
  - Participant Roles
  - Relationships
  - Aggregations of Data
  - Decisions

- Alternative Models:
  - Commodity Model
  - Multi-Role Providers
  - The Pay.gov Model
  - The Customer Relationship Management (CRM) Model

- Opportunities for Fraud

- Current Measures of Quality

- Lessons Learned
Working Definition of “KBA”

- Verification based on *information* provided by claimant
- Verification of identity is based on *reference information* associated with a claimant
- Acceptance of claimed identity depends upon satisfactory *consistency* between reference and provided information
- *No specific prior relationship* between claimant and verifier

Many details are still being defined – “KBA” is still very much a work in progress.

This is the key difference between past and current use of “KBA”
Models of KBA

Generic Model of KBA

These participants are still emerging
Commodity Model

Models of KBA
Multi-Role Providers

Models of KBA
The Pay.gov Model

Models of KBA
The CRM Model

Very tight integration between the Service Provider and the Verifier.

The Data Aggregator role is internalized.
Opportunities for Fraud

- Fraud Scheme
- Service Provider
- Data Aggregator
- Claimant
- Verifier
- Evaluation
- Relying Party
- Government Agency

Models of KBA
Measures of Quality

- For Aggregators
  - Cost
  - Timeliness
  - Technical integration
  - Content visibility
  - Content accuracy
  - Population coverage

- For Verifiers
  - Cost
  - Timeliness
  - Technical integration
  - Scoring options
  - Scoring accuracy
Lessons Learned

- The breadth of the demand
  - Population coverage
  - Variety of data elements
  - Decision support alternatives

- The importance of the context
  - For the customer Claimant
  - For the agency Relying Party

- Challenges of probabilistic outcomes