Making voice biometrics work in real world implementations

AKA, Beyond the bullet point

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Victrio Intro

- Emerging leader in passive voice biometrics

- Team expertise in voice recognition and call center
  - Ex-Nuance, BeVocal, Tuvox

- Industry acclaim
  - Gartner Cool Vendor 2013 for Security: Identity and Access Management
  - RSA Most Innovative Company 2013 - Finalist
Deep Experience in Voice Biometric Implementations for Financial Firms

- 3 years of implementation experience
- Clients include 3 of top 5 financial firms
- Screening 100M calls in 2013
- Largest global fraudster database in world
History of Industry’s Voice Biometric Efforts

1990’s
- Schwab
- HSN

Early 2000’s
- Hartford Insurance
- Marriott
- US Bank

Mid 2000’s
- AT&T
- Visa
- Bank of America
- First Horizon

Late 2000’s
- American Express
- Bell Canada
- Bank of America
- ABN/AMRO
- Santander
Gap Between Theory and Practice

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TERMINATED
INTERNAL ONLY
Today: Even More Imperative to rescue call center

Customers are increasingly frustrated...

65%: Frustrated
50%: Too time-consuming

While professional fraudsters aren’t stopped

Source: Opus Research 2012 Survey

Web Attacks vs. Phone Attacks

Source: RSA Client Study
Passive Voice Biometrics: Promising Theory

- No customer interruption
- Passive enrollment
- Passive authentication
- Alerts agent in real time
  - Shorter call and AHT
  - Happier customer
  - Stronger fraud detection
Ideal System Overview

Call Center / IVR

Mobile

Caller Voice

Victrio ID Confidence Cloud

Voice Biometric Analysis

Account Data

Call & Behavioral Data

Voiceprint Match

Signal Analysis

Passive Customer Voiceprints

Shared Fraudster Voiceprints

ID Confidence Reported to Agent

High

Low

Fraud

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Life in the Trenches: Fraud Detection

• Call center infrastructure is never ready on Day 1
  – Call recording system poorly configured
    • Association with accounts not always available
    • Relevant metadata not available
  – Clients have to assert ownership of data

• Need new people processes to support solution
  • Poor flagging and capture of fraud interactions
  • Poor understanding of call center “big data”
Life in the Trenches: Fraud Detection

• Business Model?
  – Licensed product?
  – Managed service?
    • Evolve system to anticipate evolving fraudster behavior
    • Track changing impact of factors in multi-factor scoring
    • Example: Growing usage of using $8 burner phones weakens device detection; adjust weighting
Field Results: High Repeat Fraud Rate

- **Credit Card Fraud**:
  - 0%: 72%
  - 80%: 95%

- **Bank Account Fraud**:
  - 0%: 42%
  - 80%: 76%

- **Brokerage**:
  - 0%: 71%
  - 80%: 89%
Recurring Pattern: Dramatic Fraudster Activity Concentration

TOP 20 FRAUDSTERS

~ Half of fraud activity perpetrated by top 10 Fraudsters

Calling > 30 times per month
Average Number of Attacks From “Sharks” Drops (Study of Top 10)

Average Fraud Events Per “Shark” Per Month

- Trial and error period
- Churn/abandonment period (fraudster frustration)

- Previously successful fraudsters give up after Victrio is in place

19 calls on average

July-11, August-11, September-11, October-11, November-11, December-11, January-12, February-12, March-12, April-12, May-12

Fraud Events
Case Study: Dramatic Impact of Voice Biometric Fraud Detection

- 3:1 false positive ratio exceeds industry standards
- 82% reduction in baseline fraud since Victrio launch
- Strong endorsement from fraud operations
Life in the Trenches: Authentication

• Affirm the need and business case
  – What are the authentication metrics today?
  – Translate differential into hard costs
  – How to value soft benefits?
    • Better customer experience
    • Top of wallet
    • Churn and new customer acquisition cost

• Resolve privacy considerations
  – Engage legal and security early
  – Design optimal “consent” strategy
Life in the Trenches: Authentication

- “Dual screening” maximizes accuracy and speed to answer
  - 3X accuracy with combined blacklist & whitelist vs. whitelist alone

- Multi-factor approach
  - Voice biometric, call and behavioral, account data, signal analysis

- Deliberate “graylist” process
  - When do you trust a newly enrolled voiceprint?

- Prepare organization with fraud detection first
  - Low customer exposure while you address the above
Field Results: Authentication

- Over 28M calls analyzed
- Range of AHT reduction metrics
- Leverage historical call recordings to kickstart process
- Full customer base coverage over time
Authentication Accuracy: Integrated Approach Drives Performance

- **Whitelist:** 3X accuracy with combined blacklist and whitelist versus whitelist alone

- **Whitelist:** Additional 25% improvement in accuracy when combined with metadata

- **Blacklist:** 2X lift in accuracy for blacklist when combining with metadata
Business Impact and Customer Experience

Live Agent Calls
10M per Month

Legitimate Callers
9,998,000 calls

Fraudsters
2,000 calls

Screen 1:
Customer Voiceprint Match

97% Legitimate Callers

Screen 2:
Fraudster Voiceprint Screen

3% Legitimate Callers

Caught Fraud
1,992 calls

Uncaught Fraud
8 calls

~15 -25 Seconds
Faster Authentication:
$60M savings

Current
Authentication

Greater Fraud
Detection:
$40M savings
Further materials and information

- Web access to demos
- White paper
- Industry data

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