



Knowledge-Based Authentication Challenge Response System

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Purpose and Agenda

▶ Purpose

- Explain deployment example for KBA
- Cover challenges of quantifying Challenge/Response (C/R)

▶ Agenda

- Overview of VeriSign Authentication Service Bureau
- Challenge/Response in Action: On-Line Auction Site
- Challenge/Response System Configuration



VeriSign Security Services

Provide Critical Security and Payment Infrastructures that Maximize Efficiency, Remove Complexity, and Reduce Risk

380,000+ secure sites & servers
4,000+ enterprise customers
90,000 merchants
~25% of N. America E-Commerce

90,000+ consumers verified
30,000+ certificates issued
~5M payment transactions
\$500M-\$700M processed



VeriSign Intelligence and ControlSM Solutions

Provide targeted **Solutions** to business needs

With flexibly deployed **Offerings**

Leveraging World-Class **Assets**

Delivered from Solid **Infrastructure**

Business Continuity <i>Network Infrastructure Continuity</i>	Regulatory Compliance <i>HIPAA, FDA</i>	Business Partner Integration <i>Secure Extranets</i>	Commerce Enablement <i>Security, Payments</i>
Strong Authentication <i>Secure Access To Networks</i>	Network Security <i>Intelligent Monitoring & Management</i>	Application Security <i>Secure Web Services</i>	Commerce Security <i>Fraud Protection</i>
Technology (Managed Security Services, DNS, PKI, Trust Gateway, SSL, Payment Gateway)	Data (enterprise event data, 9 billion DNS transactions, 25% N. American payment volume, SSL certificate validation)	Intelligence/Expertise (Internet health monitoring, event correlation, fraud detection engine)	
Atlas, 24*7 redundancy, secure operations, PKI roots			



VeriSign set of Offerings: Credentialing and ID Proofing Services

▶ Credentialing Systems

- Managed Strong Authentication Service Platform
- PKI, Strong Authentication
- Commercial and Public Sector Offerings
 - ▶ FIPS-140
 - ▶ Federal Bridge Compliant
 - ▶ Mortgage Banker's Association

▶ ID Proofing Services

- Physician Authentication using VeriSign's AMA Database
- Consumer Authentication using Lightbridge Services
- Business Authentication using D&B Database
- In-Person Proofing Services
 - ▶ Notary
 - ▶ Postal Service



Consumer Authentication Service

Various levels of customer authentication

Non intrusive



- ▶ **Tier 1: Identity Verification**
 - Based on application data
 - Name, Address, Phone
 - Optional: email, date of birth, drivers license
 - Custom Risk Score

- ▶ **Tier 2: Interactive Query**
 - Based on credit report
 - Dynamic “out of wallet” questionnaire

- ▶ **Manual Review**
 - For exception handling and support
 - 24x7 live person in call center

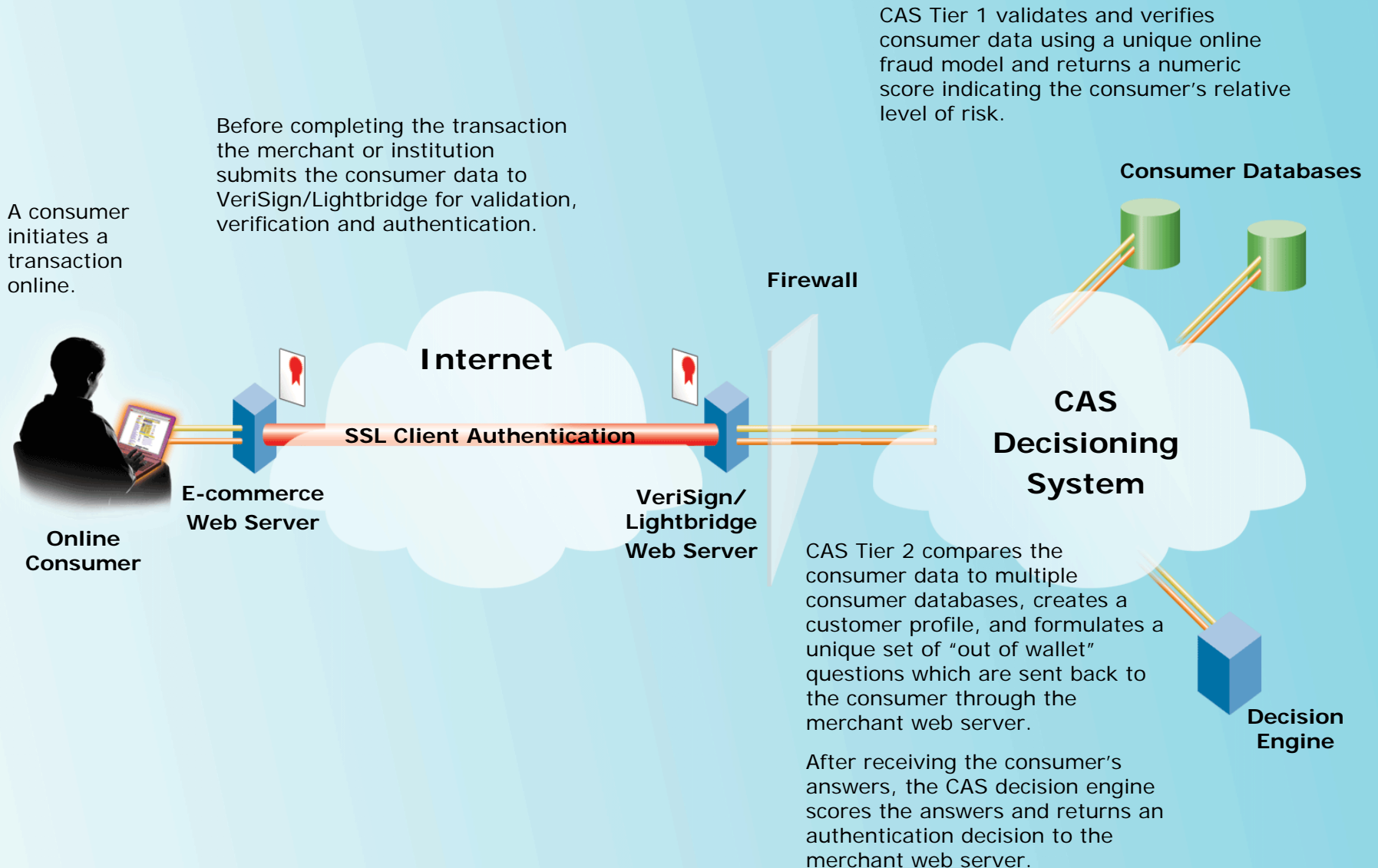
Interactive



- ▶ **Physical Proof**
 - Faxing in passport, drivers license, utility billing



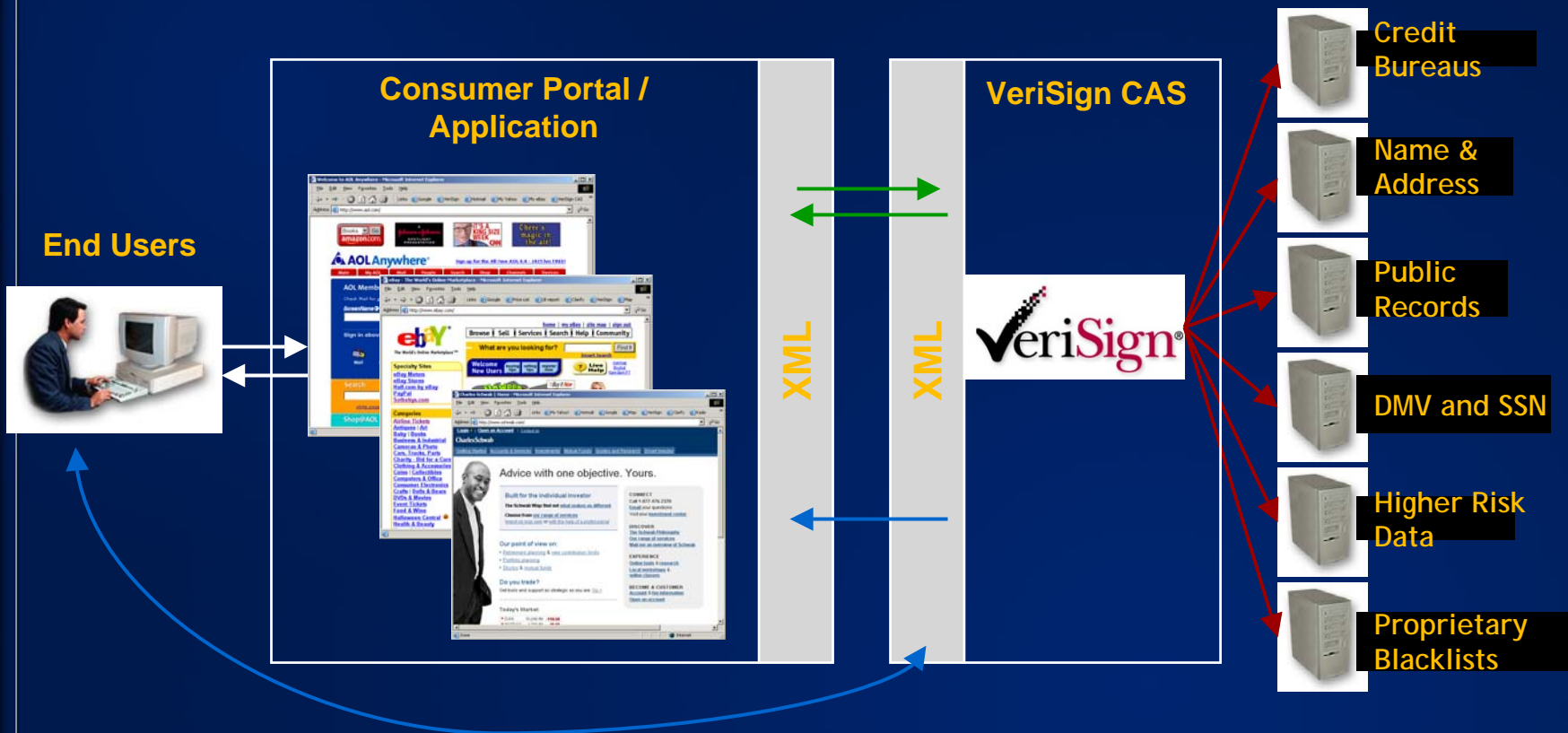
VeriSign/Lightbridge Online Identity Management: Authentication in Seconds





eBay Deployment Example

Deployment example



Real time Transaction

XML Interface

24x7x365 support

Guaranteed SLA

Audit Trail Reporting

Custom Configuration



Case Study: Online Marketplace



Business Challenge

- ▶ Provide a safe and secure marketplace for both buyers and sellers
- ▶ Track and screen out fraudulent users
- ▶ Non-intrusive process that is private and confidential

VeriSign Solution

- ▶ Identity verification methods that cross verify identity information using 50+ data sources
- ▶ 24x7 call support to handle exceptions
- ▶ Leverage VeriSign brand to build consumer confidence

Results

- ▶ **Instant account verification** of all users
- ▶ **Custom risk score** to flag accounts requiring additional monitoring
- ▶ **Tier based authentication** approach to managing risks



ID Verify: Verify Account Information - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail Yahoo! Messenger

Address: <https://certify.ebay.com/saw-cgi/eBayISAPI.dll?VerifyAccountInfoShow&usage=2> Go

ID verify: verify Account information

1 Verify Account Information 2 Verification Questions 3 Confirm

Providing the information below helps us confirm who you are and ensures that no one can use your information to sell on eBay.

- Your information is secure! Protecting your information and privacy is important to us.
- Transfer of your information is protected by secure 128-bit encrypted SSL.

Contact Information

Please verify your Information below. Accurate information is required to maintain your eBay account. Changing any of the contact information below will also update your eBay account.

Full Name *
e.g., John H. Doe

Michael	C	Seguinot
---------	---	----------

First name M.I. Last name

Company Name

Address *

City *

Be prepared to provide specific information about your financial data.

Credit Card Account Number *

Enter the next 2 digits in the Account Number for the Discover Credit Card whose account number begins with the digits 601100.

* = required

If you don't have a credit card that begins with those digits, please leave the answer blank.

Account Number 601100

Previous Street Name *

Enter the Street Name of your Previous Address in HERNDON.

For example, if you lived at 567 North Santa Cruz Avenue, you would enter "Santa Cruz" or if you lived on 2400 5th Street, you'd enter "5th". If you lived at more than one address in the city, enter just one street name. If you have never lived in this city, please leave the answer blank.

Street Name

ex. Santa Cruz

Credit Card Limit *

Enter the Credit Limit for the Discover Credit Card whose account number begins with the digits 601100.

If you don't have a credit card that begins with those digits, please leave the answer blank.

Credit Limit \$.00



CAS gathers data about the individual and creates a challenge only the user should know.



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ID Verify: Successful

You have successfully completed the ID Verify process.

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Feedback Summary

117 positives. 114 are from unique users.

1 neutrals.

0 negatives. 0 are from unique users.

eBay ID card

[strtrek \(114\)](#)

Member since: Sunday, Jul 04, 1999 Location: United States

Summary of Most Recent Reviews

	Past 7 days	Past month	Past 6 mo.
Positive	3	9	41
Neutral	0	0	0
Negative	0	0	0
Total	3	9	41
Bid Retractions	0	0	0

View strtrek's [Auctions](#) | [ID History](#) | [Feedback About Others](#)

Ebay User is now ID Verified!





C/R

Configuration Parameters

C/R– Authentication Questions (Automated)

- ▶ Credit Card Questions
- ▶ Previous Address
- ▶ Payment Questions
- ▶ Account Number Questions

C/R– Authentication Questions (Manual Review)

- ▶ Unanswered Automated Questions
- ▶ Bank/Institution Questions
- ▶ Employment Questions

C/R– Configuration Settings

- ▶ **Allowable Visits:** Number of allowable authentication attempts per user in a specified period of time.
- ▶ **Allowable Visits Counter:** Period by which authentication attempts counter is reset.
- ▶ **Question Sets:** Number of potential automated question sets in a given session
- ▶ **Min./Max: Questions per set:** Minimum and Maximum number of automated authentication questions per question set.
- ▶ **Passing Score – Questions Correct:** Number of correct answers required for passing automated process.
- ▶ **Passing Score – Percentage Correct:** Percentage of correct answers required for passing automated process.
- ▶ **Borderline Score – Questions Correct:** Number of correct questions required for Borderline Score.
- ▶ **Borderline Score – Percentage Correct:** Percentage of correct questions required for Borderline Score.

C/R– Configuration Settings

- ▶ **Question Variances – Payment Amount Questions:** Difference between answer provided and information in consumer profile on a per question basis.
- ▶ **Manual Review: Offline Authentication Process** handled by the Lightbridge Call Center whereby consumers verbally answer authentication questions.

Challenges in Quantifying C/R

- ▶ Requires merchant/agency involvement
- ▶ Time lag between fraudulent event and knowledge of event
- ▶ Fraud data
 - Sensitive to customers
 - Inaccurate/lack of reporting

Requires macro view of multiple systems and direct involvement of customer

