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# FCCX Briefing

# Information Security and Privacy Advisory Board

**June 13, 2014**

# Agenda

- Overview
  - NSTIC
  - FICAM
  - Federal Cloud Credential Exchange
- Lessons Learned
- Enhancing Federation Privacy
- Questions

# Challenge with Digital Identities

Average users have 6.5 web passwords, 25 accounts requiring passwords, and enter approximately 8 passwords per day

76% of network intrusions exploited weak or stolen credentials

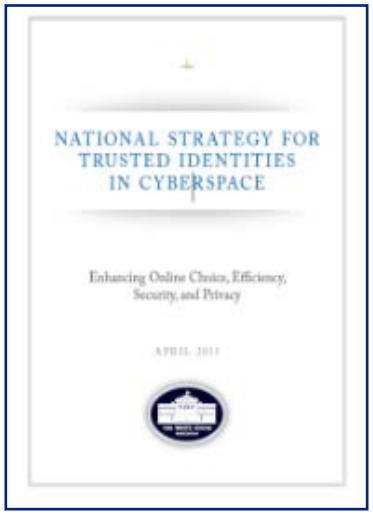
75% of customers will avoid creating new accounts

54% leave the site or do not return when asked to create a new password

45% of consumers will abandon a site rather than attempt to reset their passwords or answer security questions

The rise of Bring Your Own Identity is being driven by users' "identity fatigue" and the need to bring convenience, security and privacy to on-line interactions

# NSTIC VISION




**VISION**

**Individuals and organizations utilize secure, efficient, easy-to-use, and interoperable identity solutions to access online services in a manner that promotes confidence, privacy, choice, and innovation.**

**NSTIC Objective 2.3: Implement the Federal Government Elements of the Identity Ecosystem**

- **The Federal Government must continue to lead by example and be an early adopter of identity solutions that align with the Identity Ecosystem Framework.**
- **The Federal Government must also continue to leverage its buying power as a significant customer of the private sector to motivate the supply of these solutions.**

# FICAM Trust Framework Solutions
# Approved Identity Services

**LOA 4**
- Very High Confidence in Asserted Identity
- PIV, CAC, PIV-I, xCertified w/ Federal Bridge @ LOA4

**LOA 3**
- High Confidence in Asserted Identity
- LOA 4 + Symantec + Verizon Business

**LOA 2**
- Some Confidence in Asserted Identity
- LOA 4/3 + Virginia Tech

**LOA 1**
- Little or No Confidence in Asserted Identity
- LOA 4/3/2 + LOA 1 TMs

Current & Complete listing @
http://www.idmanagement.gov/approved-identity-services

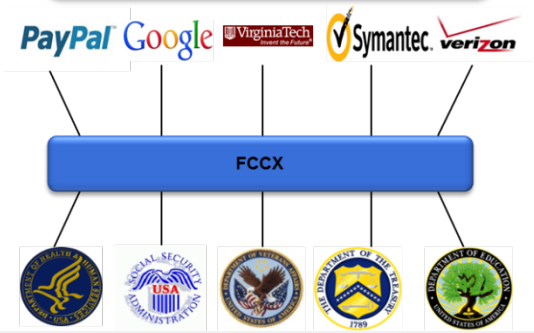
# Solution Overview

The Federal Cloud Credential Exchange (FCCX) accelerates NSTIC and FICAM by allowing agencies to securely interact with a single "broker" to authenticate consumers

**Current State**


- **Requires agencies to integrate with multiple Identity Service Providers (IDPs), each independently paying for authentication services**
- **Limited LOA 2 & 3 credentials due to limited demand**

**The Solution (FCCX)**

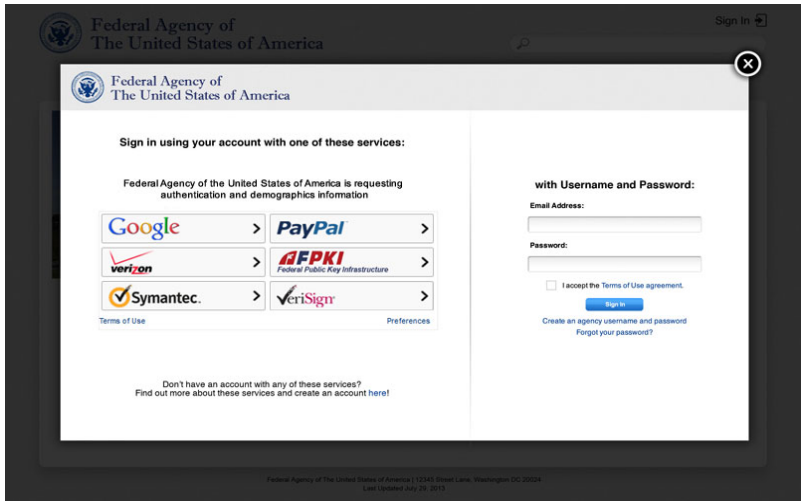



- **Centralized interface between agencies and credential providers – reduces costs and complexity, speeds up integration timeline for new IDPs**
- **Enhanced consumer privacy and experience; user does not have to get a new credential for each agency application**
- **Decreased Federal government authentication costs**

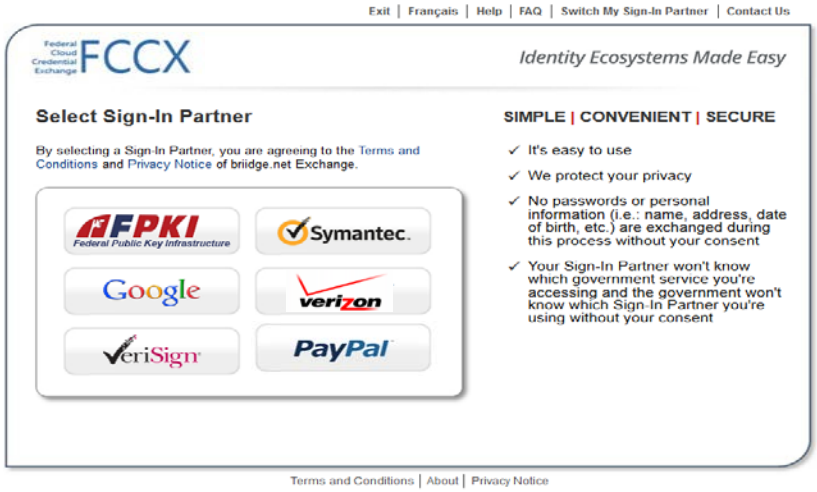
# Sample User Experience

1. Consumer navigates to Agency website that has decided to accept interoperable credentials and identities
2. Consumer chooses to use Identity Provider credential to log into the Agency website (2 options: imbedded selector on agency page or standalone page)

Imbedded Selector




FCCX Sign-In Page



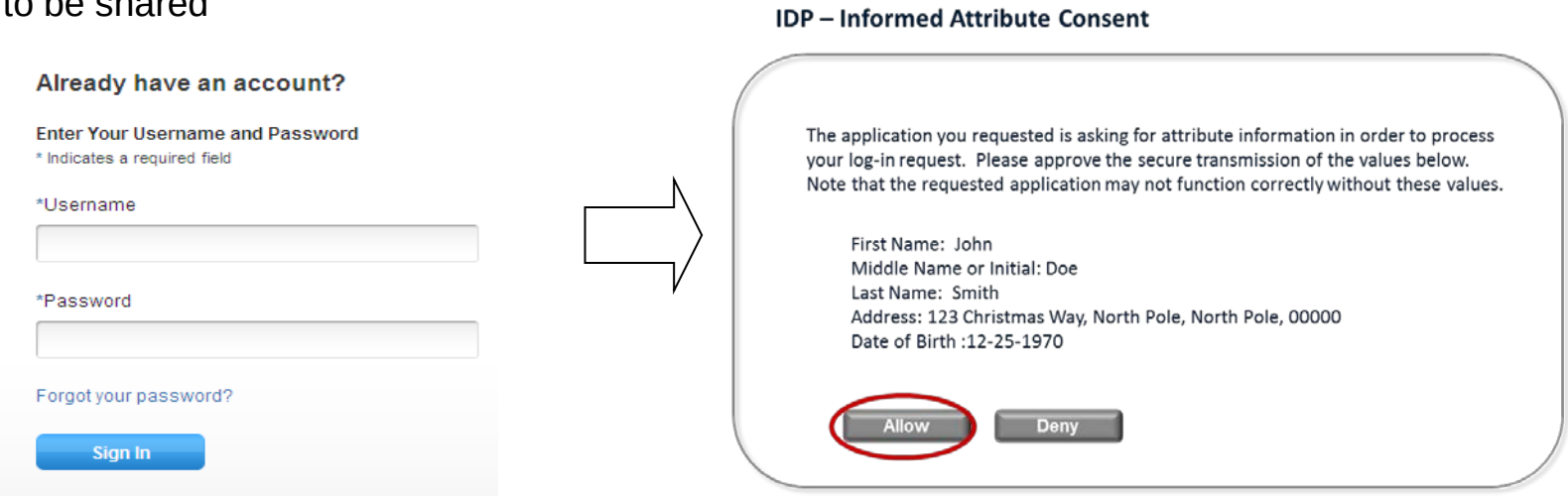

3. Consumer browser is routed via FCCX to the Identity Provider login page (Identity Provider only knows it has an authentication request from FCCX and no consumer information is in the transfer)




For Illustrative Purposes Only

# Sample User Experience - continued

4 Consumer logs into the Identity Provider website and provides consent to allow attributes to be shared




5 Identity Provider sends credential assertion and attributes via FCCX to the requesting Agency. This is done without storing any personal consumer data in FCCX. Agency resolves identity to single account utilizing attributes and may ask additional identity related questions during initial log-in to resolve identity to a single person/account.

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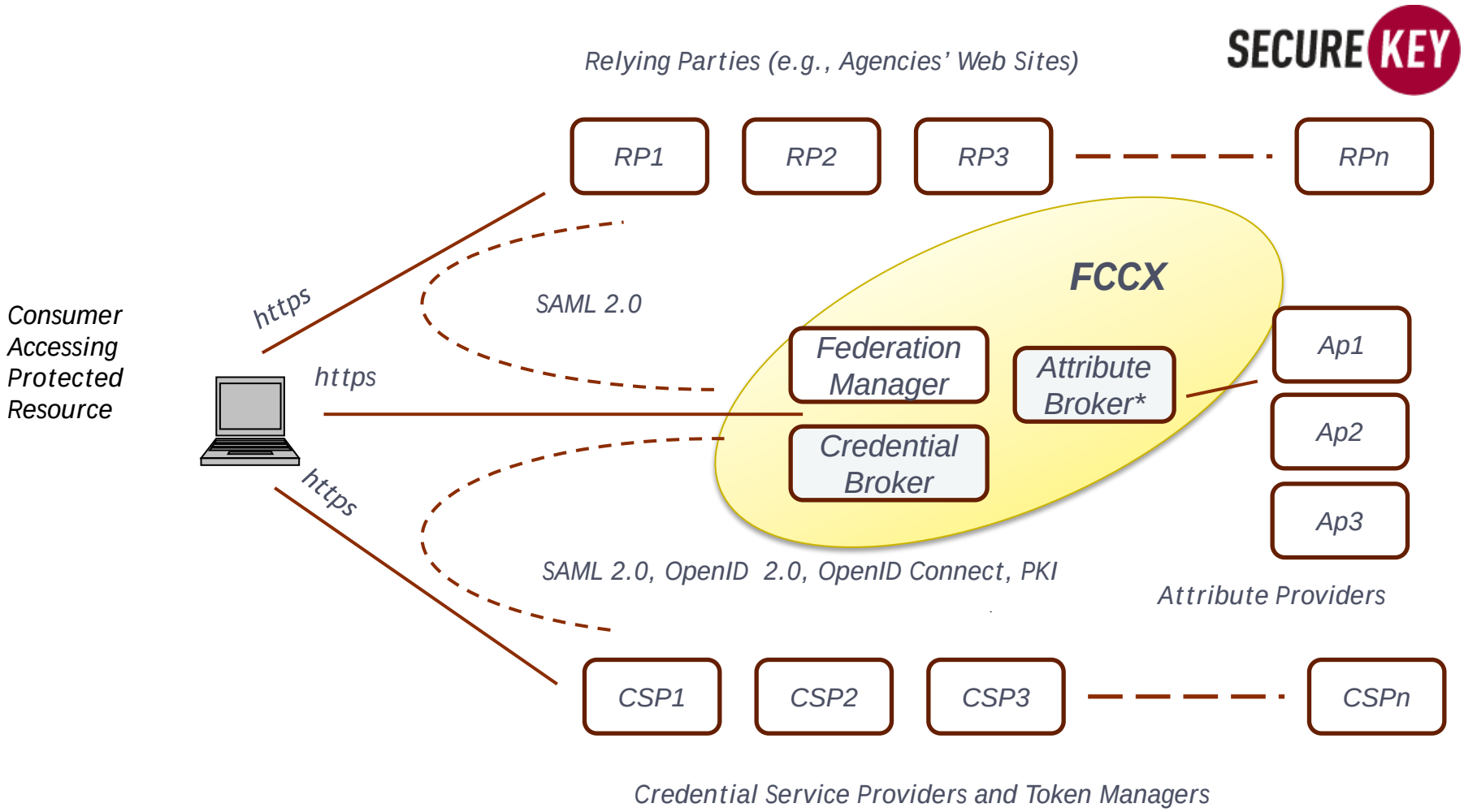
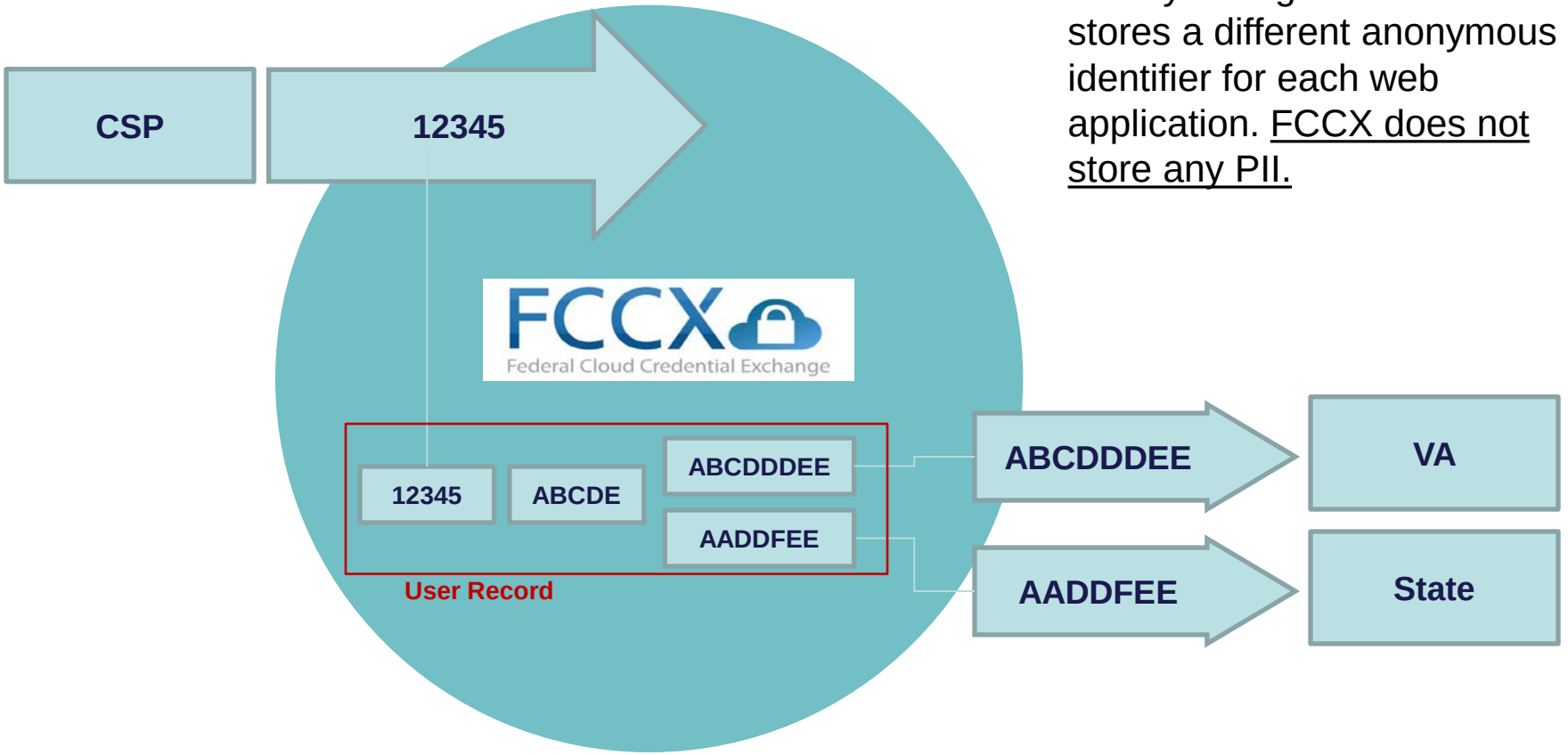
# High Level Architecture




* Roadmap Item

# Ensuring Privacy by Design




The system generates and stores a different anonymous identifier for each web application. FCCX does not store any PII.

# Interoperable Credential and FCCX Benefits

**For Agencies:**

- Enables acceptance of full range of FICAM-approved third-party credentials for online services
- Avoids need for separate contracts with each credential provider
- Increases efficiency and ease of credentialing and integration, enhancing ability to provide digital services to citizens
- Reduces total investment – password renewal, helpdesk, and credentialing costs

**For Citizens and other users:**

- Allows the citizen to use credential(s) of choice for interactions with multiple agencies
- Provides a more secure environment that is easier to manage – one username and password. More secure than multiple agency passwords.

# FCCX Roles

| | |
|---|---|
| NSTIC | National Strategy for Trusted Identities in Cyberspace – overall vision |
| GSA | Program Management Office (PMO), IDP Contracts and FICAM Program |
| USPS | Operating Entity for FCCX Broker |
| SecureKey | Technology Provider for FCCX Broker |
| Credential Providers | Credential/Identity Providers |
| Agencies | Relying Parties |

# Lessons Learned
# User Experience & Relying Party Considerations

# Federated Identities - User Understanding and Experience

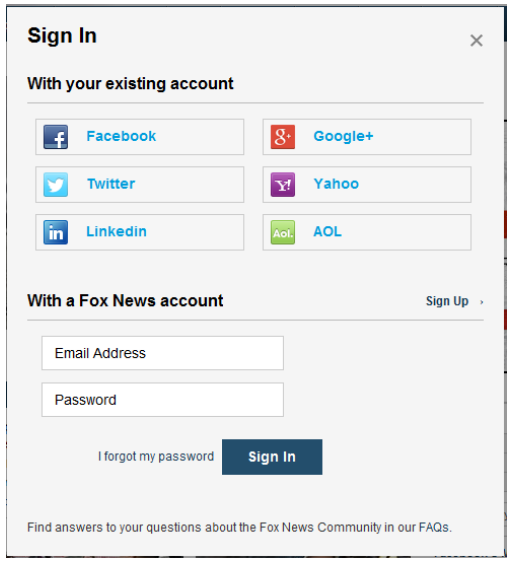
## Have you used a login from any of the following companies to log in to other websites?

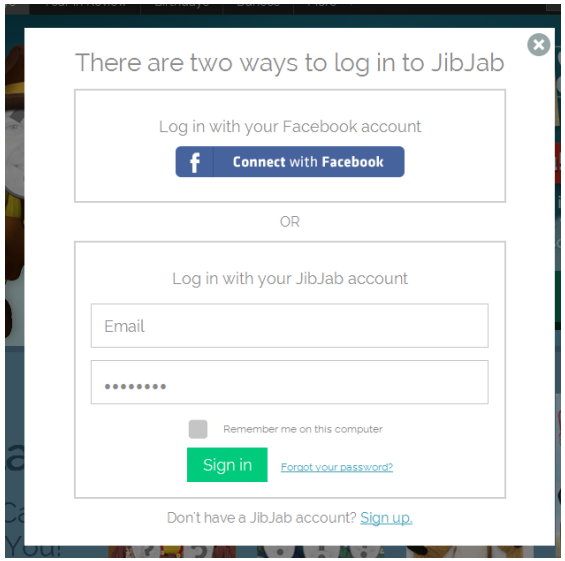
**% of respondents, by age bracket**

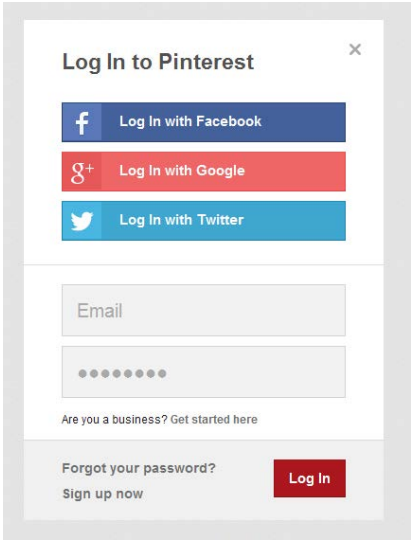
| | Age 18-34 n=216 | Age 35-54 n=374 | Age 55+ n=410 |
|---|---|---|---|
| Facebook | 75% | 57% | 39% |
| Google | 57% | 34% | 21% |
| PayPal | 44% | 24% | 22% |
| Amazon | 32% | 20% | 19% |
| Yahoo | 31% | 22% | 18% |
| Twitter | 30% | 18% | 10% |
| Linkedin | 14% | 9% | 8% |
| Pinterest | 13% | 7% | 8% |
| Apple | 18% | 5% | 4% |
| No, I have not | 12% | 32% | 47% |

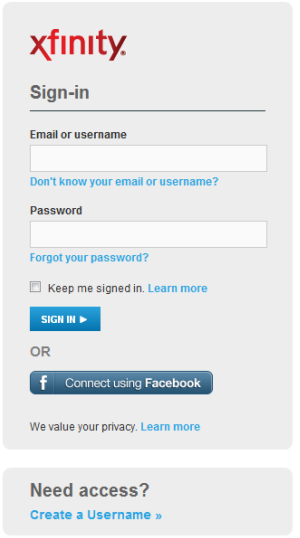
- n=1000
- Online survey
- Conducted February 2014
- Representative sample by age, household income and gender
- Respondents recruited online, using AYTM.com

# Federated Identities - User Understanding and Experience




Many users understand logging in with a social account.

They do not understand the difference between an unverified identity (LOA 1) and a verified identity (LOA 2+) plus the many have other questions on privacy, security, etc.

Next Step: Developing User Experience Guidance and Communications

# Federated Identities – Relying Party Considerations

- RP is responsible for maintaining a user profile and for managing user access to their system

- Identity resolution – the ability to uniquely resolve to an individual in a database is a core issue for agencies
  - Gaining access to existing PII – RP must ensure it is granting access to the right person
  - Users may change CSPs over time – RP needs to have the ability for user to map different credentials to the same user profile

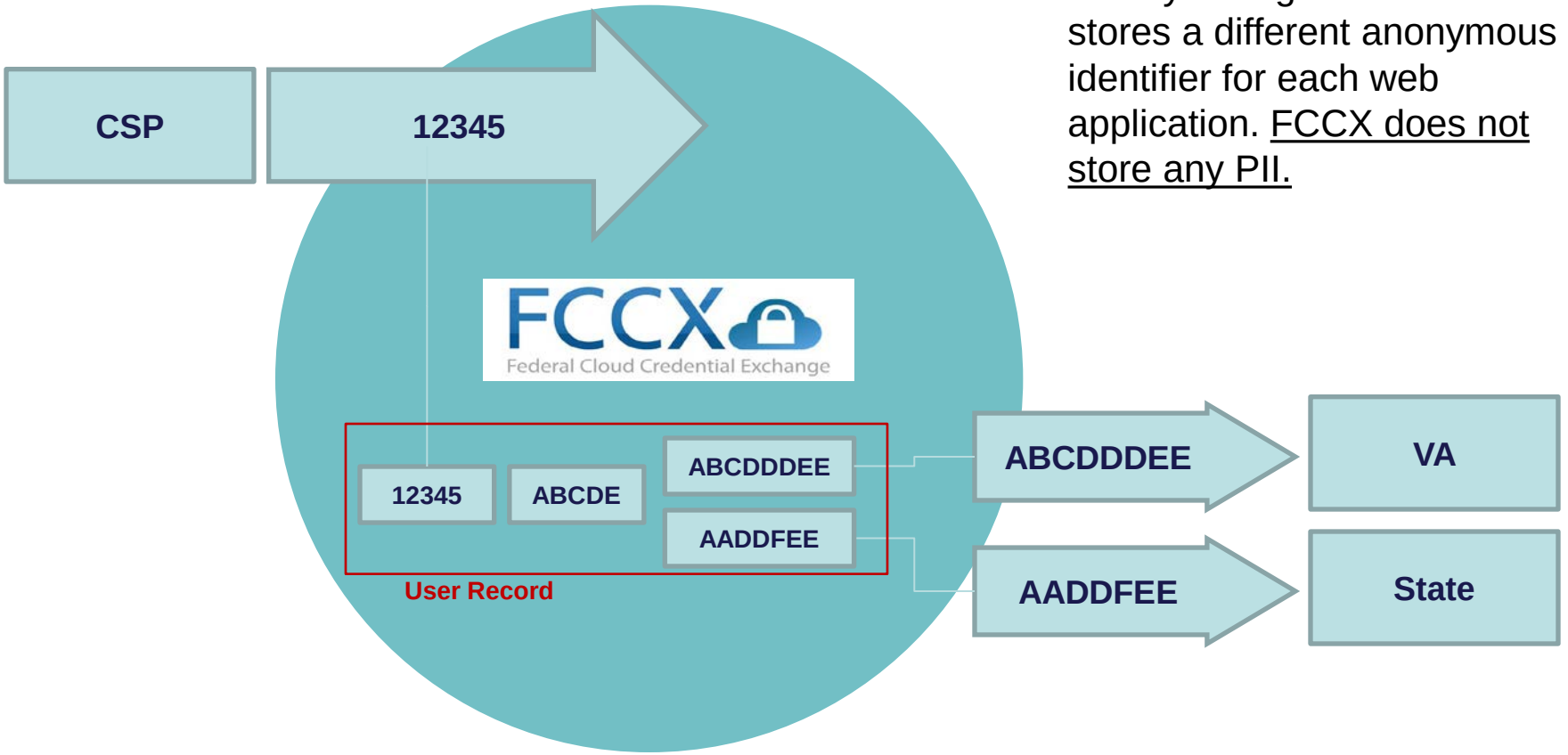
# Federated Identities – Relying Party Considerations

- Core set of attributes required from LOA2/LOA3 Credential Service Providers (examples:)
  - Legal First Name, Legal Last Name, Middle Name or Initial
  - Current Address: (Parsed or Full)
  - Date of Birth: (Parsed or Full)
  - Social Security Number: (Parsed or Full)
  - Email Address

- Next Step: working with agencies to determine appropriate minimum combinations or bundles that will enable identity resolution for their needs

# Enhancing Federation Privacy

# Ensuring Privacy by Design

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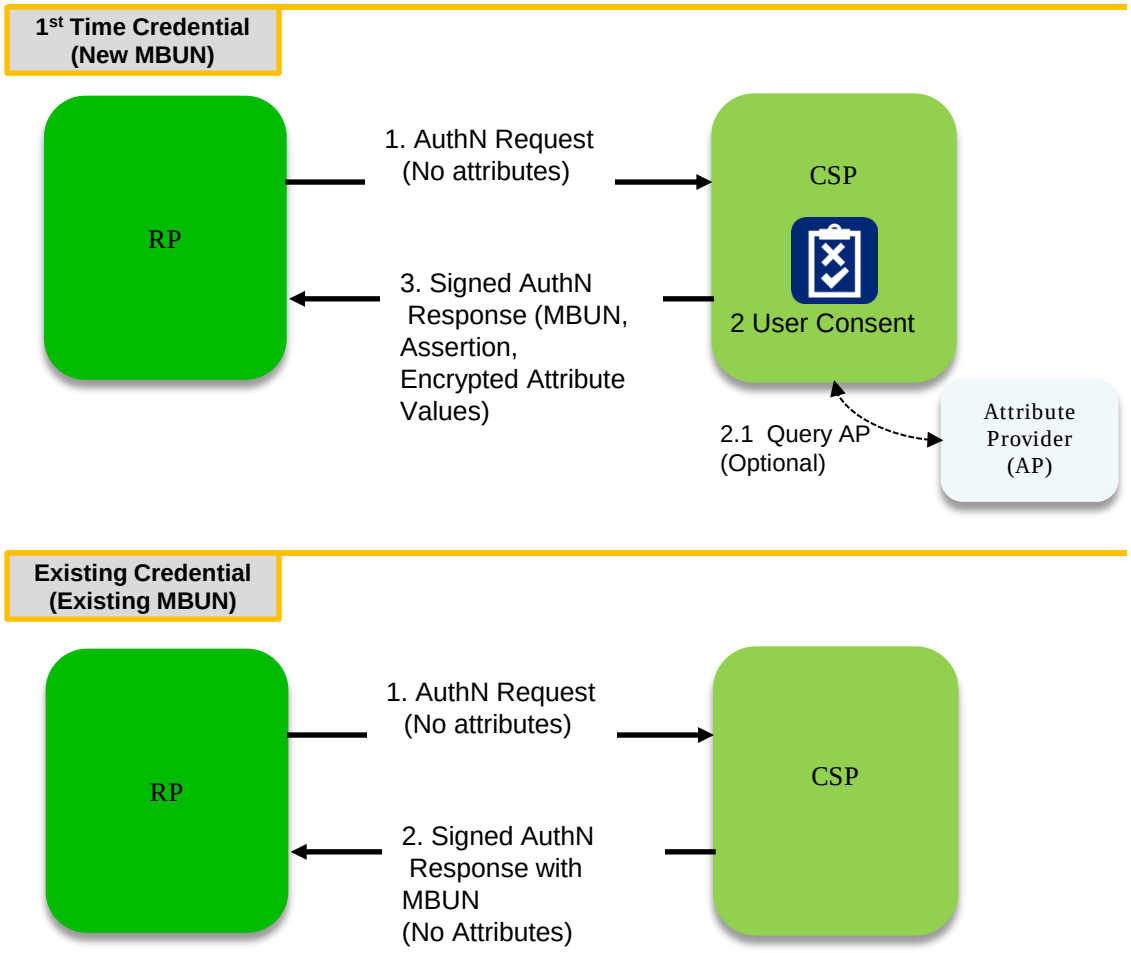
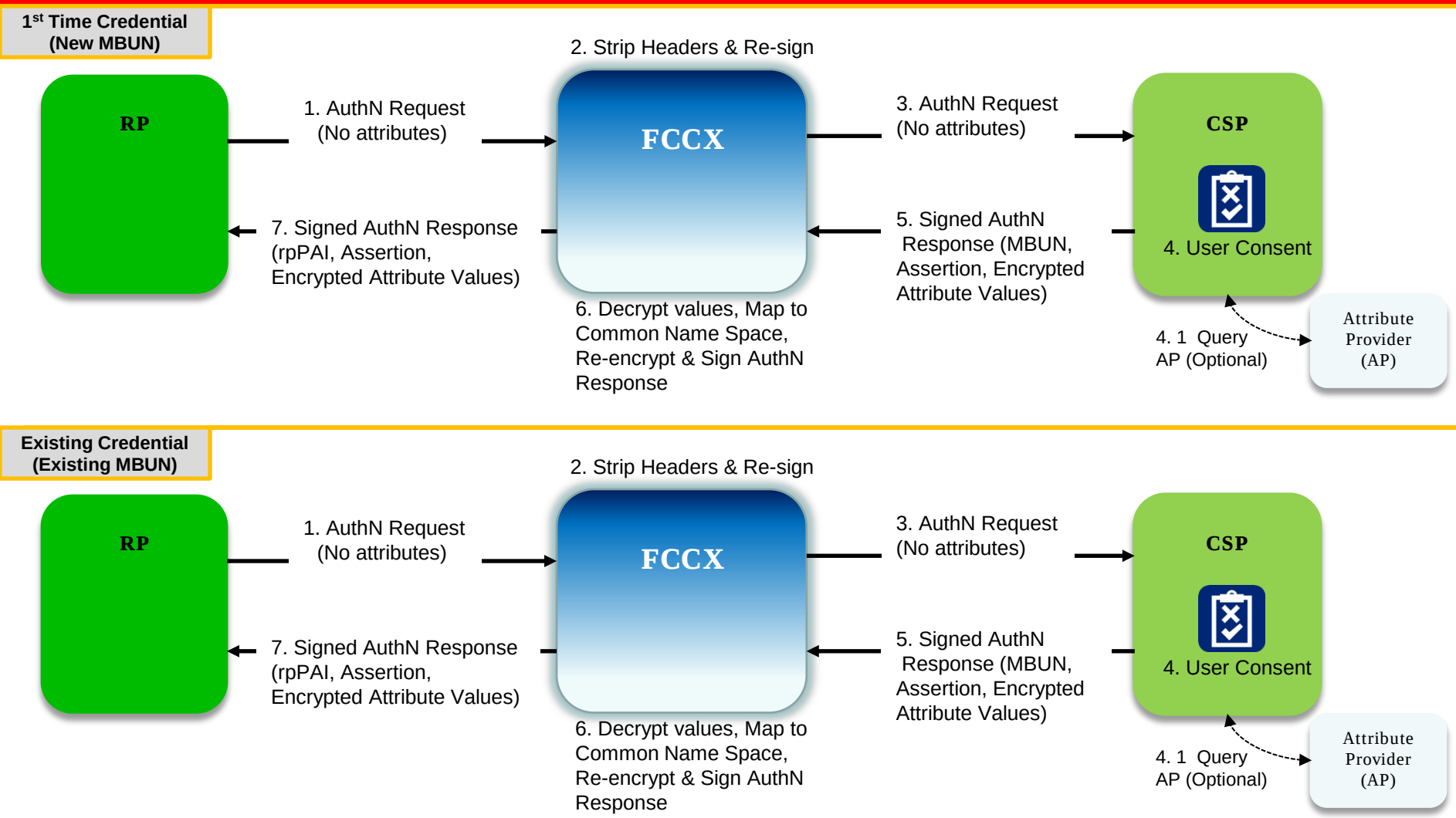
# Direct CSP and RP Integration



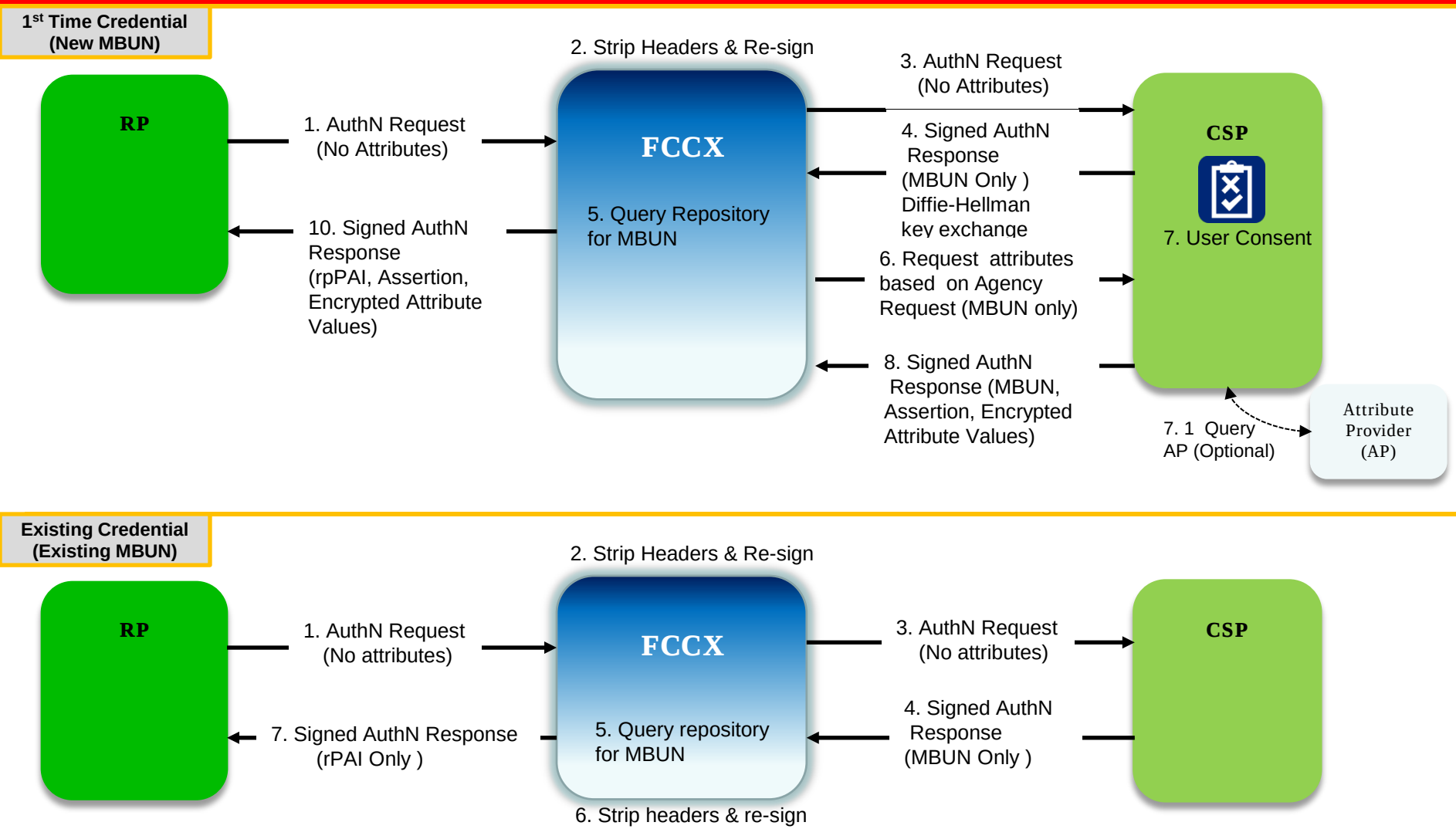
# Current FCCX Flow




**Considerations**:

- Attributes are passed to the RP every time - based on the attribute group requested - regardless of new or existing credential

# Future State Enhancement Option



# Questions

# For More Information

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