
Enhancing Consumer Privacy in Identity Federation Architectures

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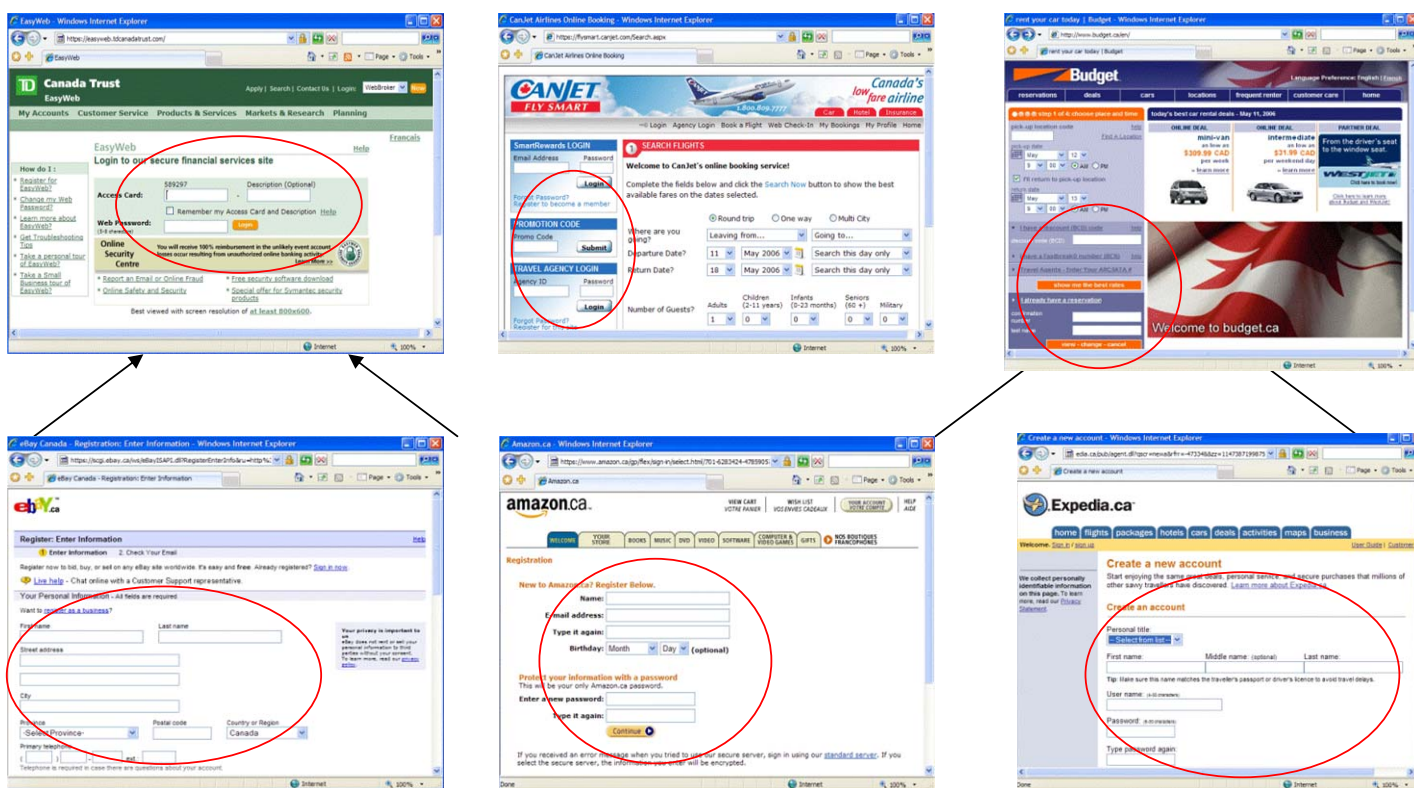
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Outline

- **Key Concepts**
 - Identity Federation
 - Identity Federation Steps
 - Single Sign-On
 - Liberty Alliance Identity Federation Architecture
 - Other Identity Federation Architectures
- **Research Contribution**
- **Conclusion**

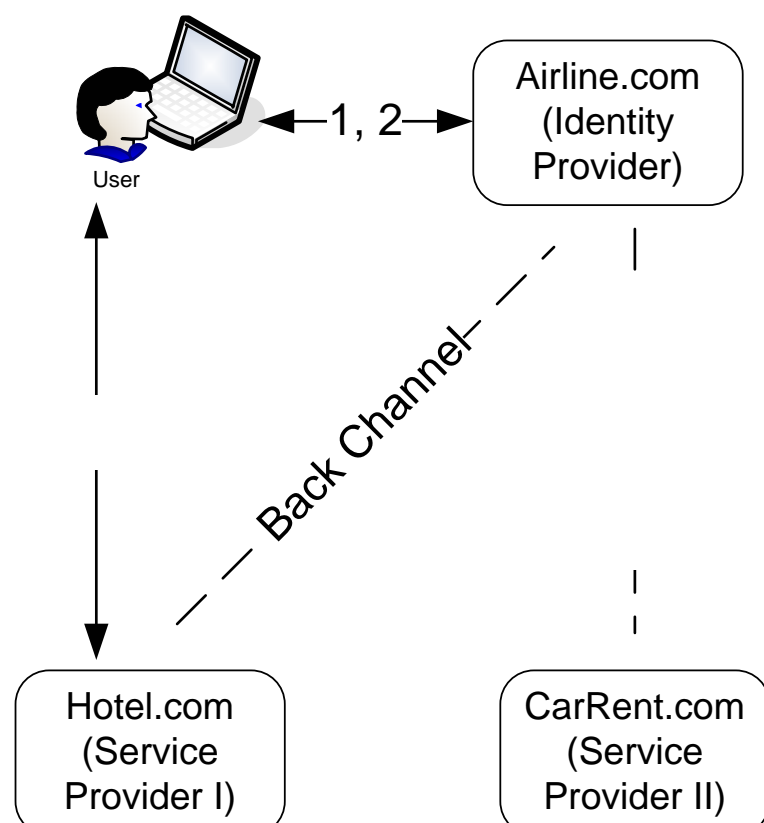
Identity Federation

- **What is Identity Federation?** assemble an identity from user's personal information stored across multiple distinct identity management systems



Identity Federation Steps

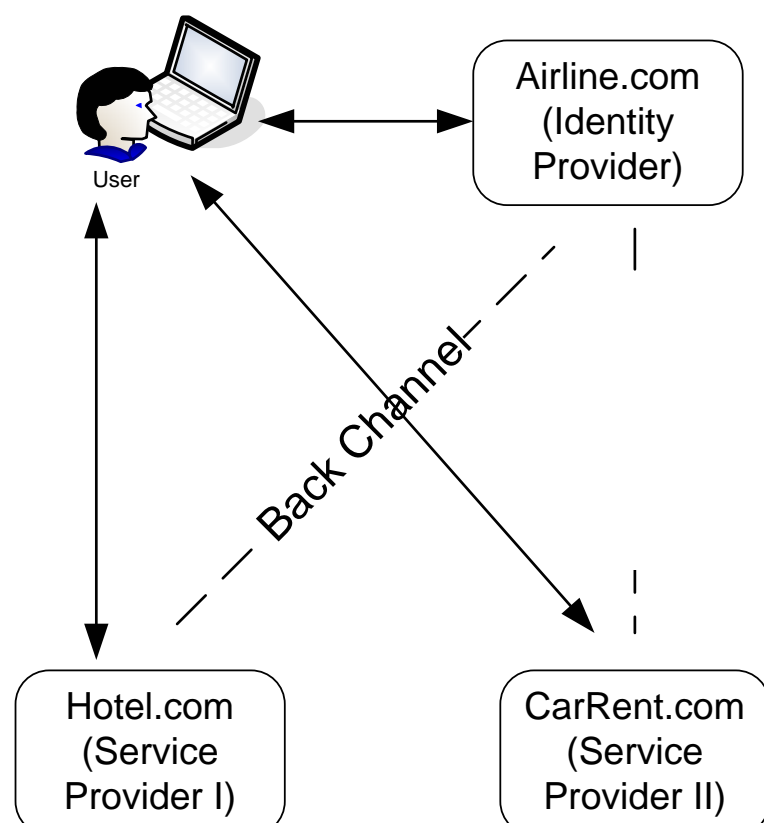
1. Create account with the identity provider (Airline.com)
2. User gives consent to the identity provider to introduce him to the affinity group (circle of trust)
3. Identity provider redirect the user to the service provider he selected (Hotel.com)
4. User gives consent to the service provider to federate his identity



Single Sign-On

- **Single Sign-On (SSO)**

A mechanism whereby a user can authenticate once with one of his identity providers (e.g. Airline.com) and gain access to the resources of multiple members among the group of service providers (e.g. Hotel.com or CarRent.com) without signing-on again.



Why to use Identity Federation

- **For Consumers:**

- Fewer identities and more manageable
- Fewer redundant logons and logouts
- Improve privacy and security of their network identity information (needs careful design of the architecture)

- **For Businesses:**

- Reduces the administrative costs of user profiles for service providers.
- Keeps more accurate and up-to-date information about users
- Increases users affiliation and sharing of their personal information

Liberty Alliance Identity Federation Architecture

- Liberty Alliance Objectives

- To create open, technical specifications that enable sign-on mechanisms through federated network identification using current and emerging network access devices.
- To support a permission-based attribute sharing framework to enable a user's control over the use and disclosure of his or her personal information.

- The project has obtained support from over 150 well known companies and organizations in the last few years.

Other Identity Federation Architectures

- Microsoft Passport Network
- Windows Live ID
- Microsoft InfoCard
- Shibboleth
- WS-Federation

Research Contribution

- Identifying and analyzing privacy breaches and flaws in Liberty Alliance identity federation architecture.
- Propose solutions to the identified privacy breaches to enhance privacy.
- Propose requisite new services to Liberty specification to enhance privacy.

Conclusion

Enhancing consumer privacy in Liberty standard



Increase consumer trust in using Liberty-enabled providers' services



Greater adoption of Liberty standards

Thank You

