The Identity Metasystem and Cardspace

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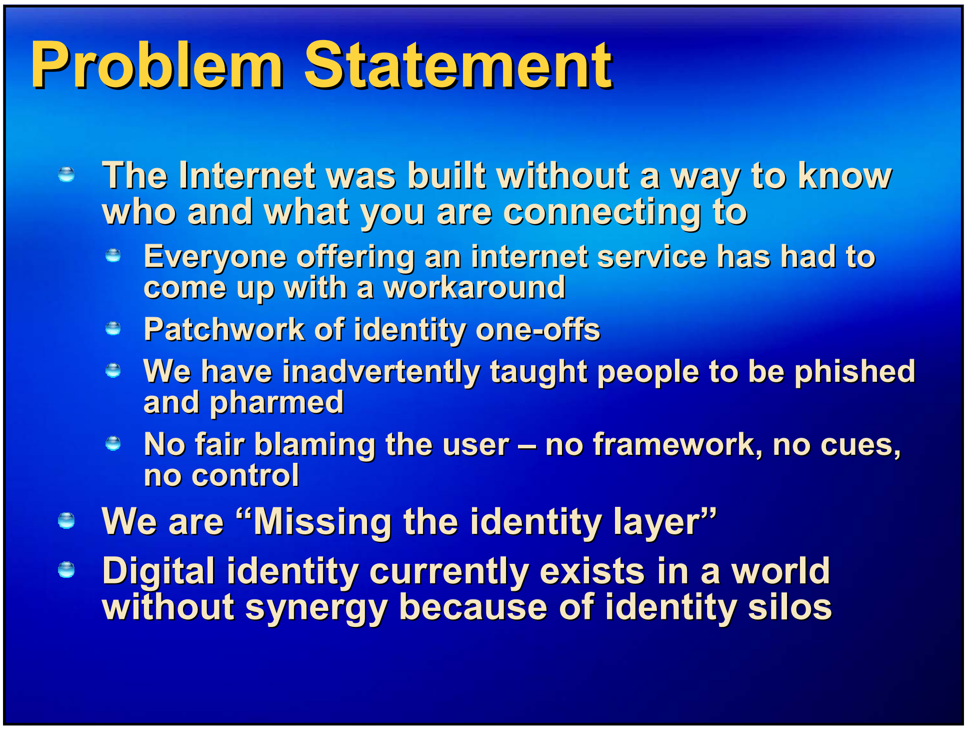
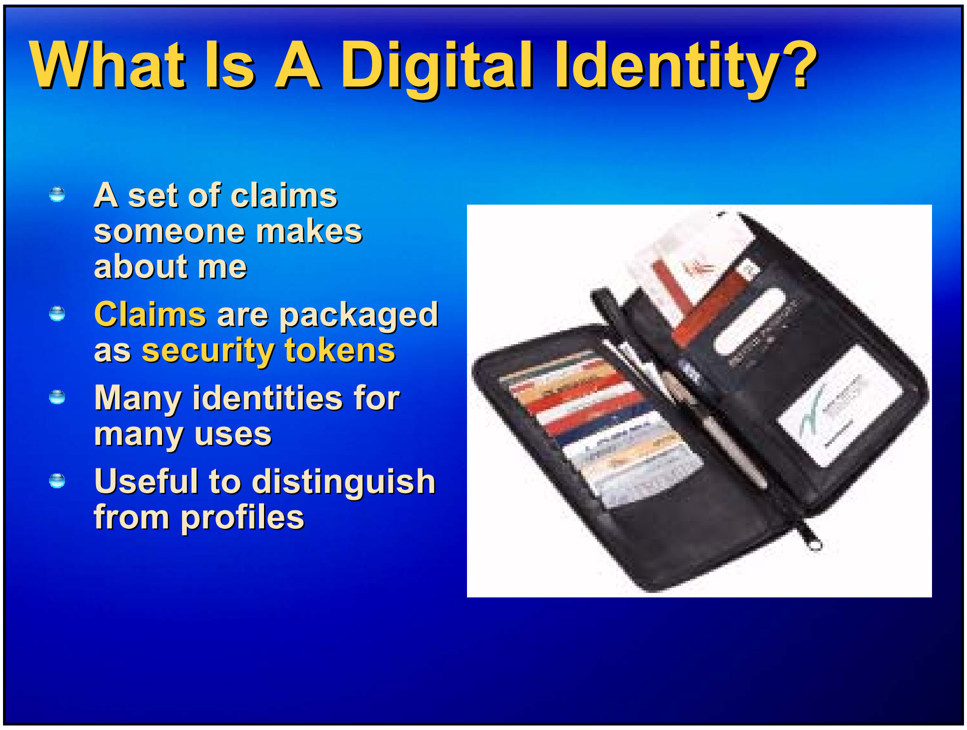


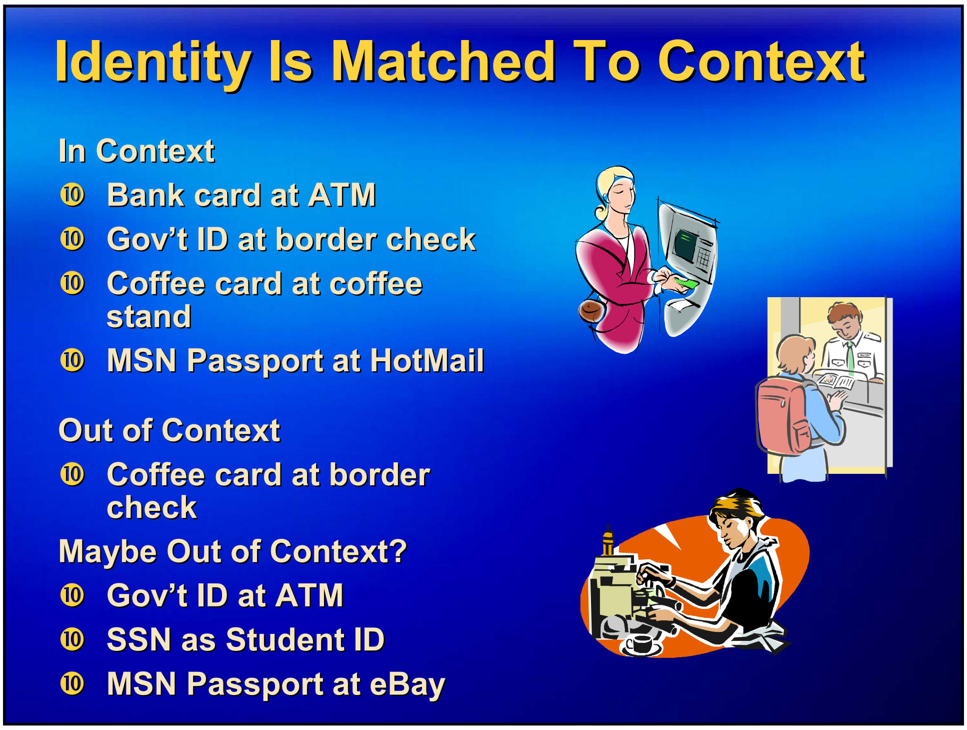
Problem Statement

- The Internet was built without a way to know who and what you are connecting to
  - Everyone offering an internet service has had to come up with a workaround
  - Patchwork of identity one-offs
  - We have inadvertently taught people to be phished and pharmed
  - No fair blaming the user – no framework, no cues, no control
- We are “Missing the identity layer”
- Digital identity currently exists in a world without synergy because of identity silos



What Is A Digital Identity?

- A set of claims someone makes about me
- Claims are packaged as security tokens
- Many identities for many uses
- Useful to distinguish from profiles



Identity Is Matched To Context

In Context

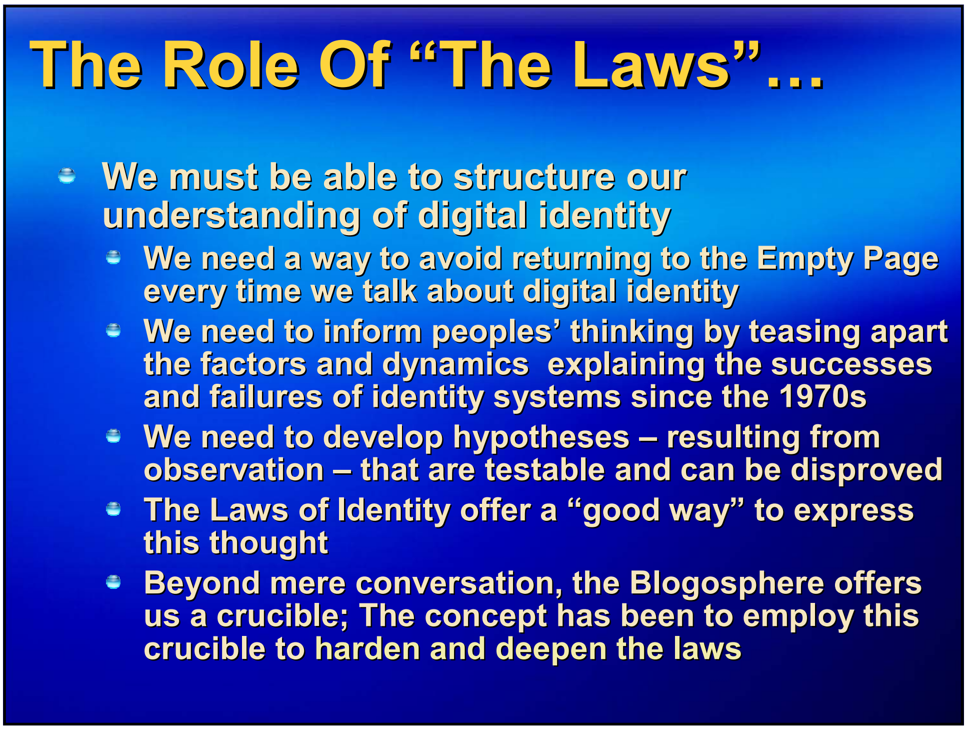
- Bank card at ATM
- Gov't ID at border check
- Coffee card at coffee stand
- MSN Passport at HotMail

Out of Context

- Coffee card at border check

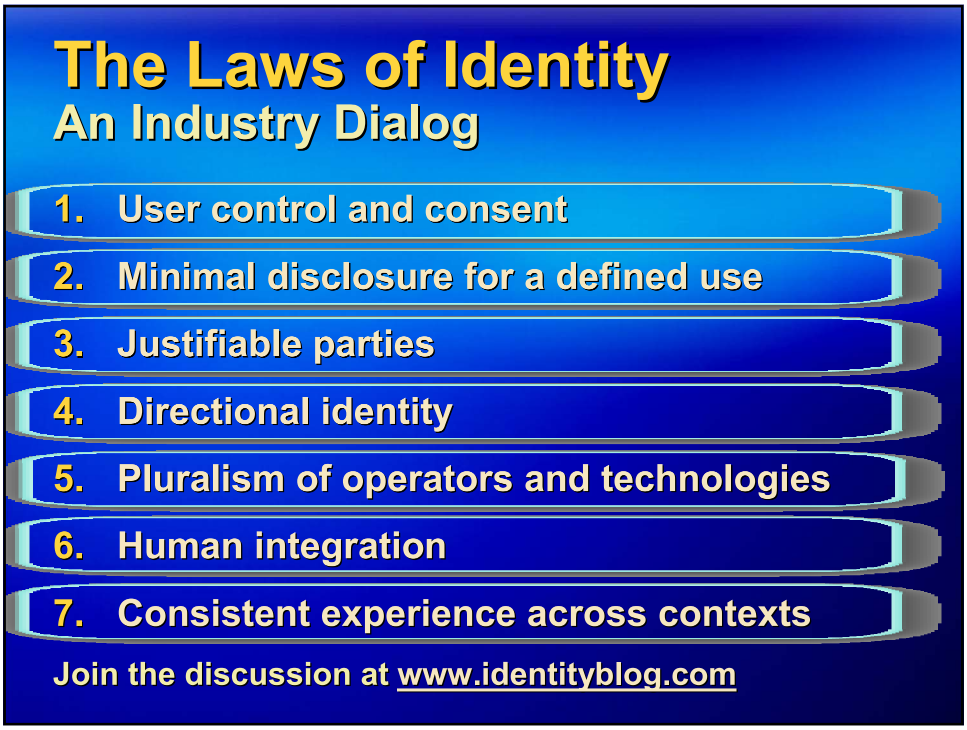
Maybe Out of Context?

- Gov't ID at ATM
- SSN as Student ID
- MSN Passport at eBay



The Role Of "The Laws"…

- We must be able to structure our understanding of digital identity
  - We need a way to avoid returning to the Empty Page every time we talk about digital identity
  - We need to inform peoples' thinking by teasing apart the factors and dynamics explaining the successes and failures of identity systems since the 1970s
  - We need to develop hypotheses – resulting from observation – that are testable and can be disproved
  - The Laws of Identity offer a "good way" to express this thought
  - Beyond mere conversation, the Blogosphere offers us a crucible; The concept has been to employ this crucible to harden and deepen the laws

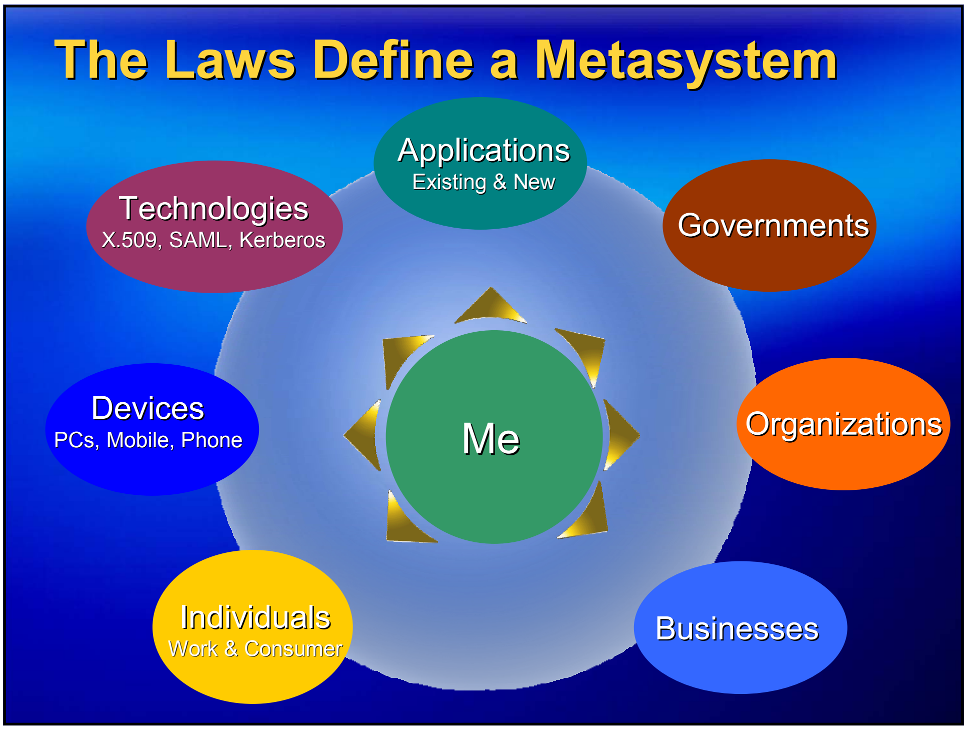


The Laws of Identity

An Industry Dialog

1. User control and consent
2. Minimal disclosure for a defined use
3. Justifiable parties
4. Directional identity
5. Pluralism of operators and technologies
6. Human integration
7. Consistent experience across contexts

Join the discussion at www.identityblog.com



The Laws Define a Metasystem

Applications
Existing & New

Technologies
X.509, SAML, Kerberos

Governments

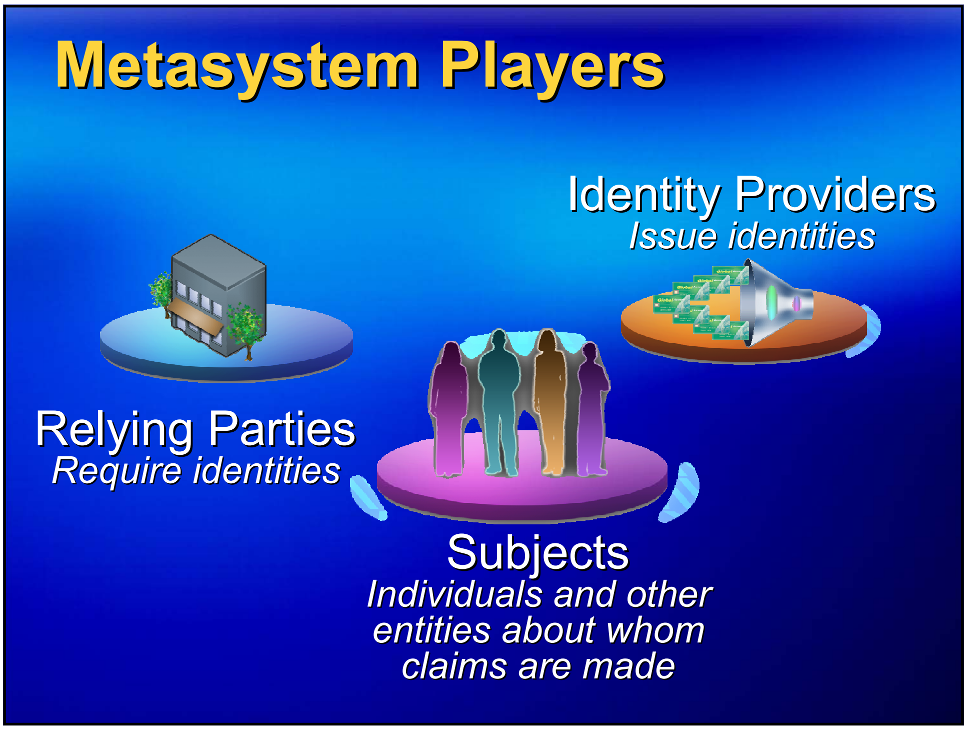
Me

Devices
PCs, Mobile, Phone

Organizations

Individuals
Work & Consumer

Businesses

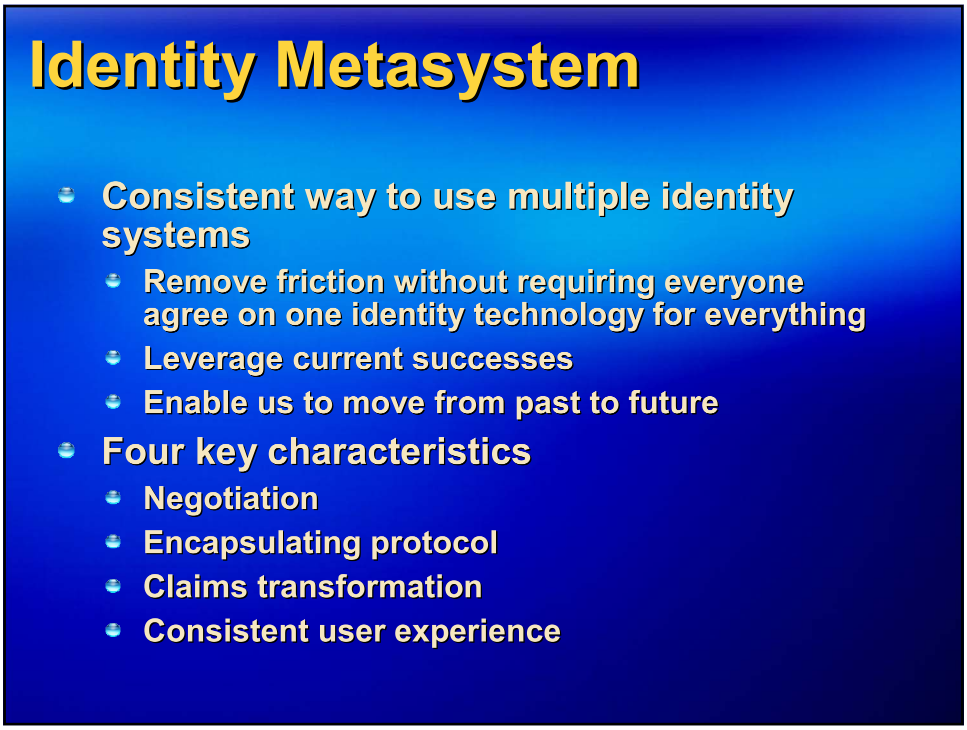


Metasystem Players

Identity Providers
Issue identities

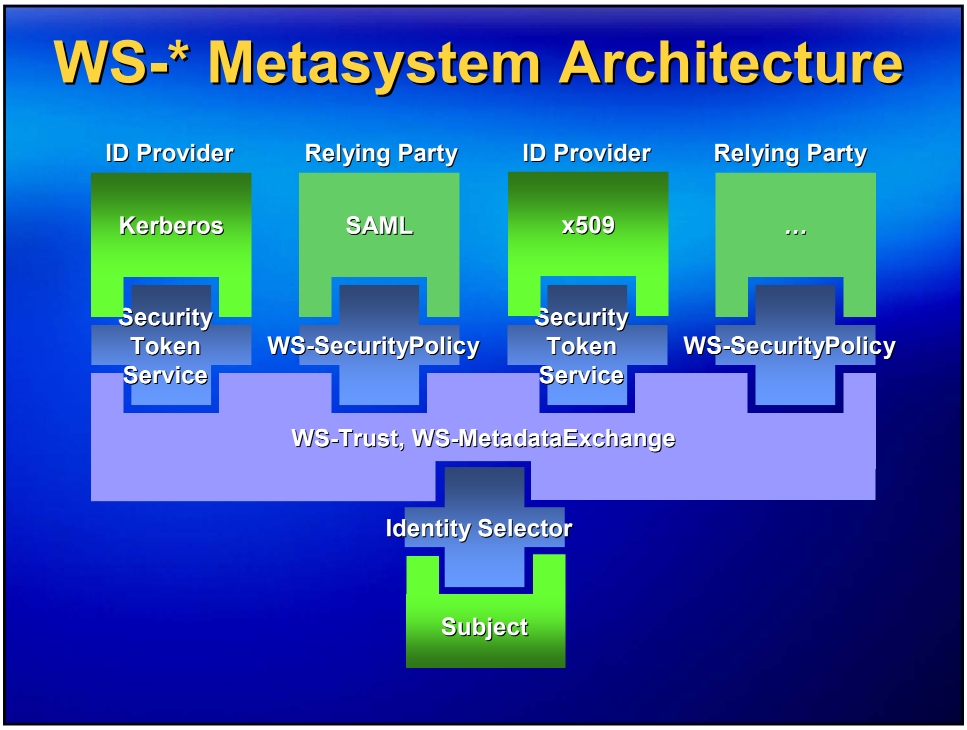
Relying Parties
Require identities

Subjects
Individuals and other entities about whom claims are made



Identity Metasystem

- Consistent way to use multiple identity systems
  - Remove friction without requiring everyone agree on one identity technology for everything
  - Leverage current successes
  - Enable us to move from past to future
- Four key characteristics
  - Negotiation
  - Encapsulating protocol
  - Claims transformation
  - Consistent user experience



WS-* Metasystem Architecture

ID Provider

Kerberos

Security Token Service

Relying Party

SAML

WS-SecurityPolicy

ID Provider

x509

Security Token Service

Relying Party

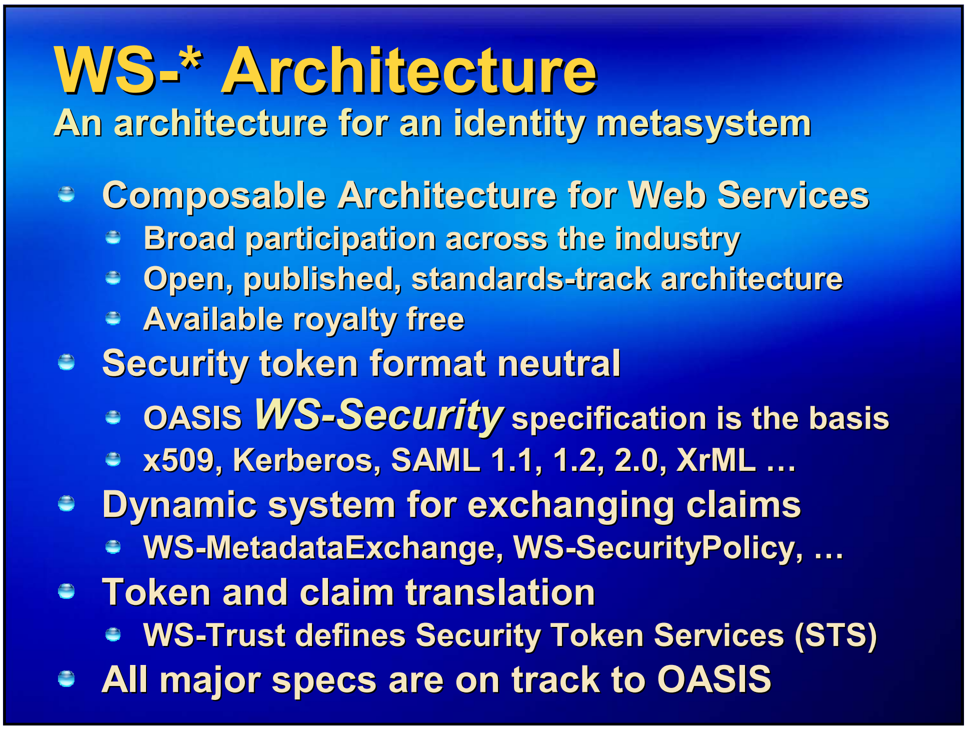
…

WS-SecurityPolicy

WS-Trust, WS-MetadataExchange

Identity Selector

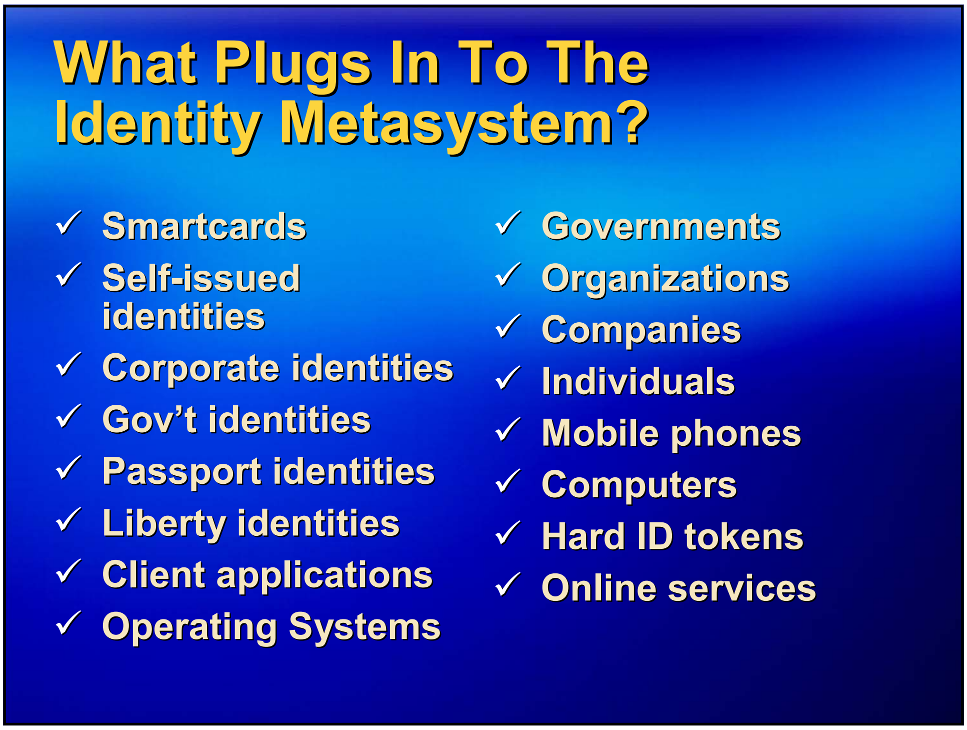
Subject



WS-* Architecture

An architecture for an identity metasystem

- Composable Architecture for Web Services
  - Broad participation across the industry
  - Open, published, standards-track architecture
  - Available royalty free
- Security token format neutral
  - OASIS *WS-Security* specification is the basis
  - x509, Kerberos, SAML 1.1, 1.2, 2.0, XrML …
- Dynamic system for exchanging claims
  - WS-MetadataExchange, WS-SecurityPolicy, …
- Token and claim translation
  - WS-Trust defines Security Token Services (STS)
- All major specs are on track to OASIS



What Plugs In To The Identity Metasystem?

✓ Smartcards
✓ Self-issued identities
✓ Corporate identities
✓ Gov't identities
✓ Passport identities
✓ Liberty identities
✓ Client applications
✓ Operating Systems

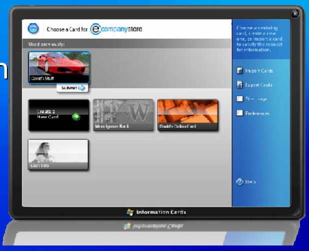
✓ Governments
✓ Organizations
✓ Companies
✓ Individuals
✓ Mobile phones
✓ Computers
✓ Hard ID tokens
✓ Online services

Cardspace

Returning Identity Control to the End User

Easier

- Reduces reliance on usernames & passwords
- Consistent experience for login and registration



Choose a Card for companystore

Choose an existing card, create a new one, or import a card to satisfy the request for information.

Safer

- Helps end users avoid some phishing attacks
- Support for multi-factor authentication

Built on WS-* Web Services Protocols

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