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Networking Laboratory

Network Identity

Kai Kang

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Introduction

What is Network Identity?

It is the set of attributes that describe profiles of an individual in the Internet.

like:

Email address, customer name, PIN,

credit card number, social security number, Passport,

even DNA, Retinal Scan ....

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Formal Definition

by *Sun Microsystem*

Network Identity (NI) is the context-sensitive identity, attributes, rights, and entitlements, all maintained within a policy-based trusted network framework.

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Network Identity Drivers

- Financial
- Compliance and Legislation
- Trust and Privacy
- Security
- Technology

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Basic Network Identity Services

Protocol	Objective	Interfaces	Functionality
DNS	Domain names	IP address	naming service
DHCP	MAC address	IP address	IP network connectivity
LDAP	User identity	Policies	Enforcement of access rights
PKI	User name	Public key	Encryption/Decryption for data security and session verification
RADIUS	User	User attributes and access rights	Control over authorized use of network resources

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Network Identity Roadmap

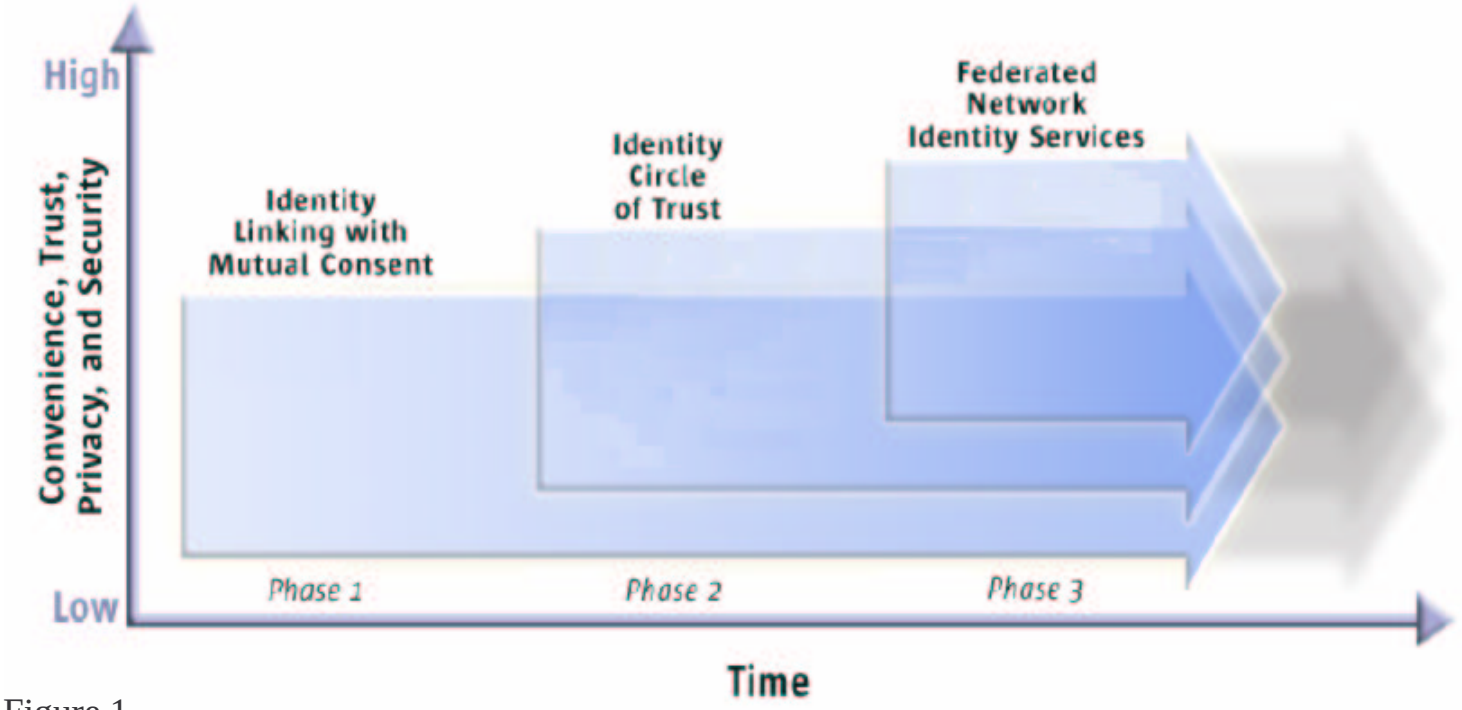

Figure 1
Network Identity Infrastructure
Source: Liberty Alliance Website

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Network Identity Management approaches

Microsoft's .Net Passport (centralized)

Liberty Alliance (Federated)

Centralized Model

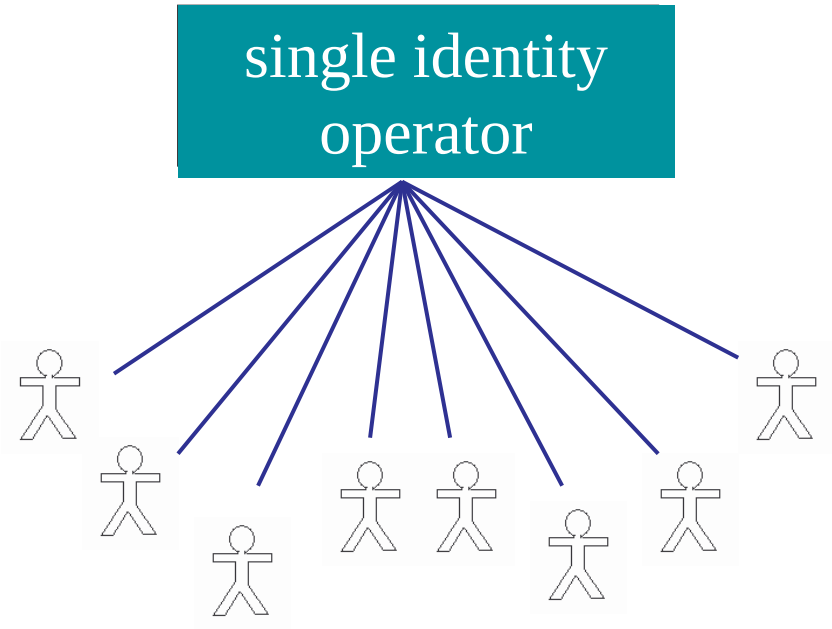

Figure 2
Centralized concept
Source: Liberty Alliance Website

Open Federated Model

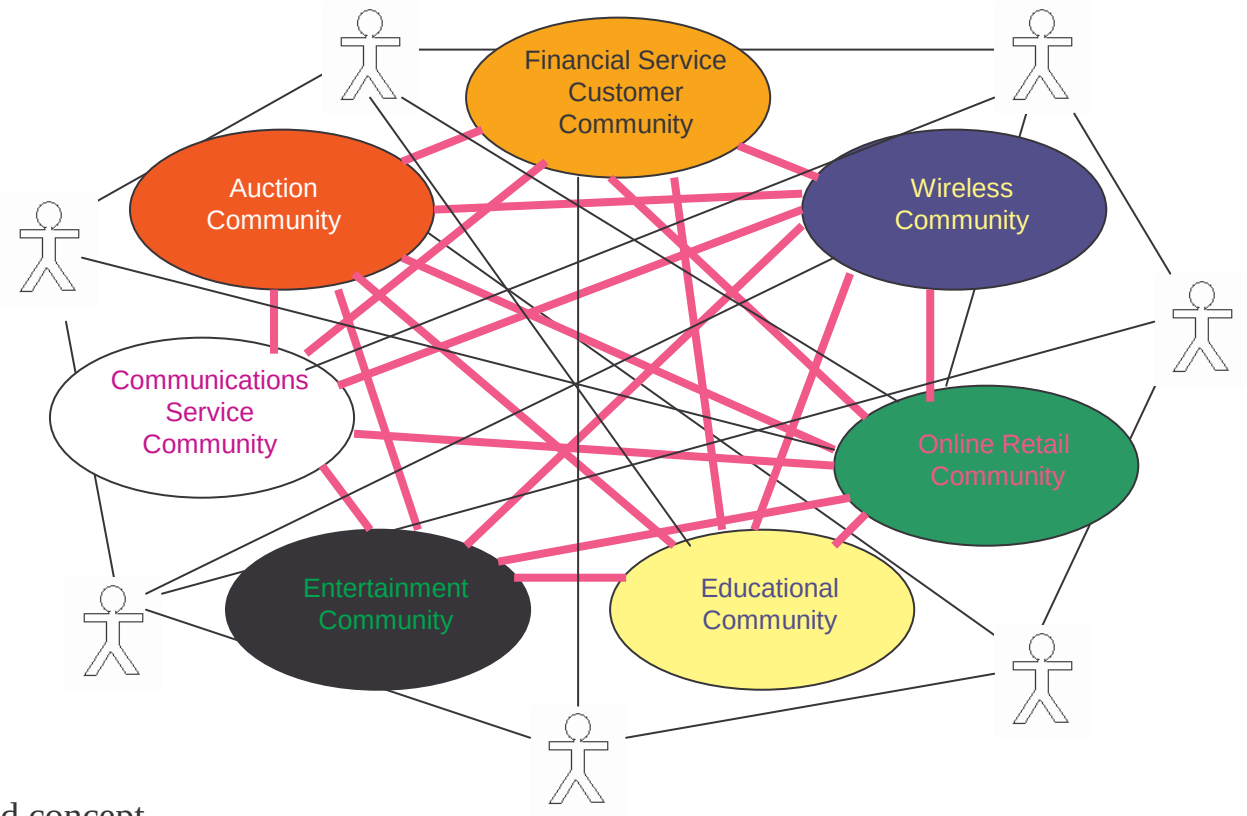

Figure 3
Open Federated concept
Source: Liberty Alliance Website

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Microsoft’s .Net Passport

Microsoft’s .Net Passport is a "universal-login" service launched since July 1999 that allows users to log in to many websites using one account. It is a key part of Microsoft's .Net strategy.

Microsoft's NET Passport has more than 200 million active accounts and handles more than 4 billion authentications per month.

Adam Sohn
Product Manager
Platform Strategy Group at Microsoft

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Participating companies that use Passport technology

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Liberty Alliance

A business alliance, formed in Sept 2001 with the goal of establishing an open standard for federated identity management.

Liberty Alliance Provides the technology, knowledge and certifications to build identity into the foundation of mobile and Web-based communications and transactions.

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Membership categories

Over 150 diverse member companies and organizations nowadays including:

- Government organizations
  The U.S. General Services Administration,
  and the U.S. Department of Defense
- End-user companies
- System integrators
- Software and hardware vendors

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Liberty Alliance Board Members

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Technical Architectures

Varies technical approaches for the implementation of Network Identity, here

I choose the Liberty Alliance’s model

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Liberty NI Architecture

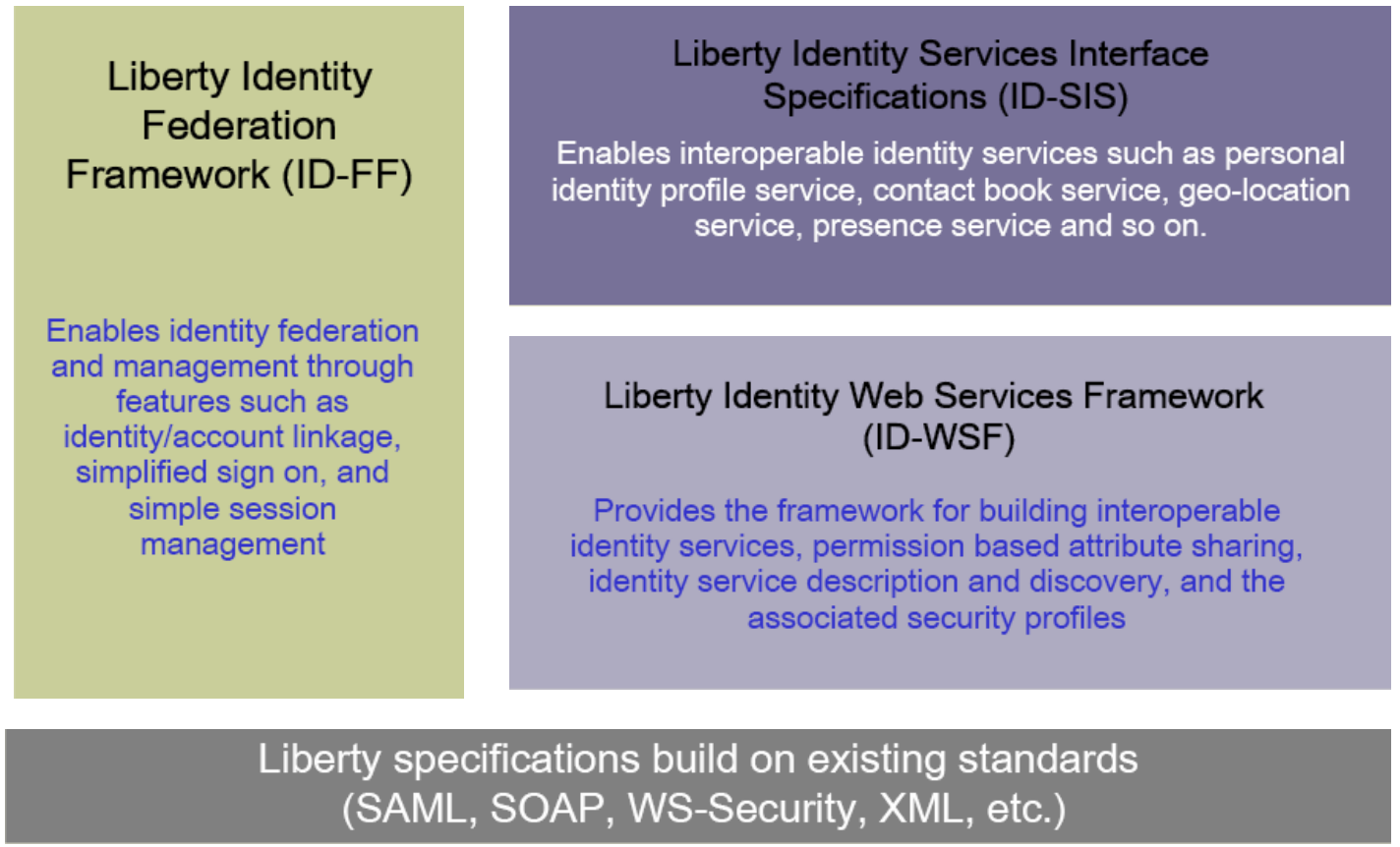

Figure 4
Liberty NI Architecture
Source: Liberty Alliance Website

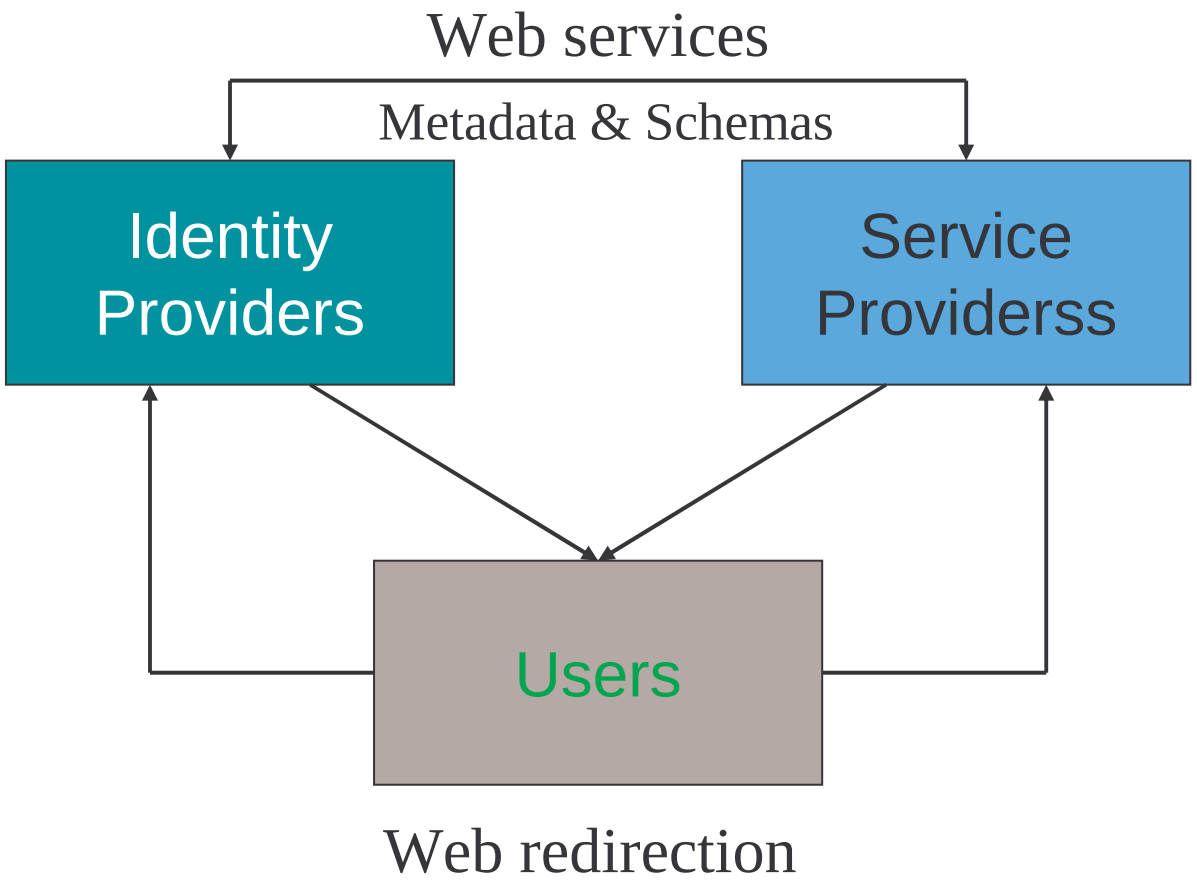

Figure 5
ID-FF Basic Architecture
Source: Liberty Alliance Website

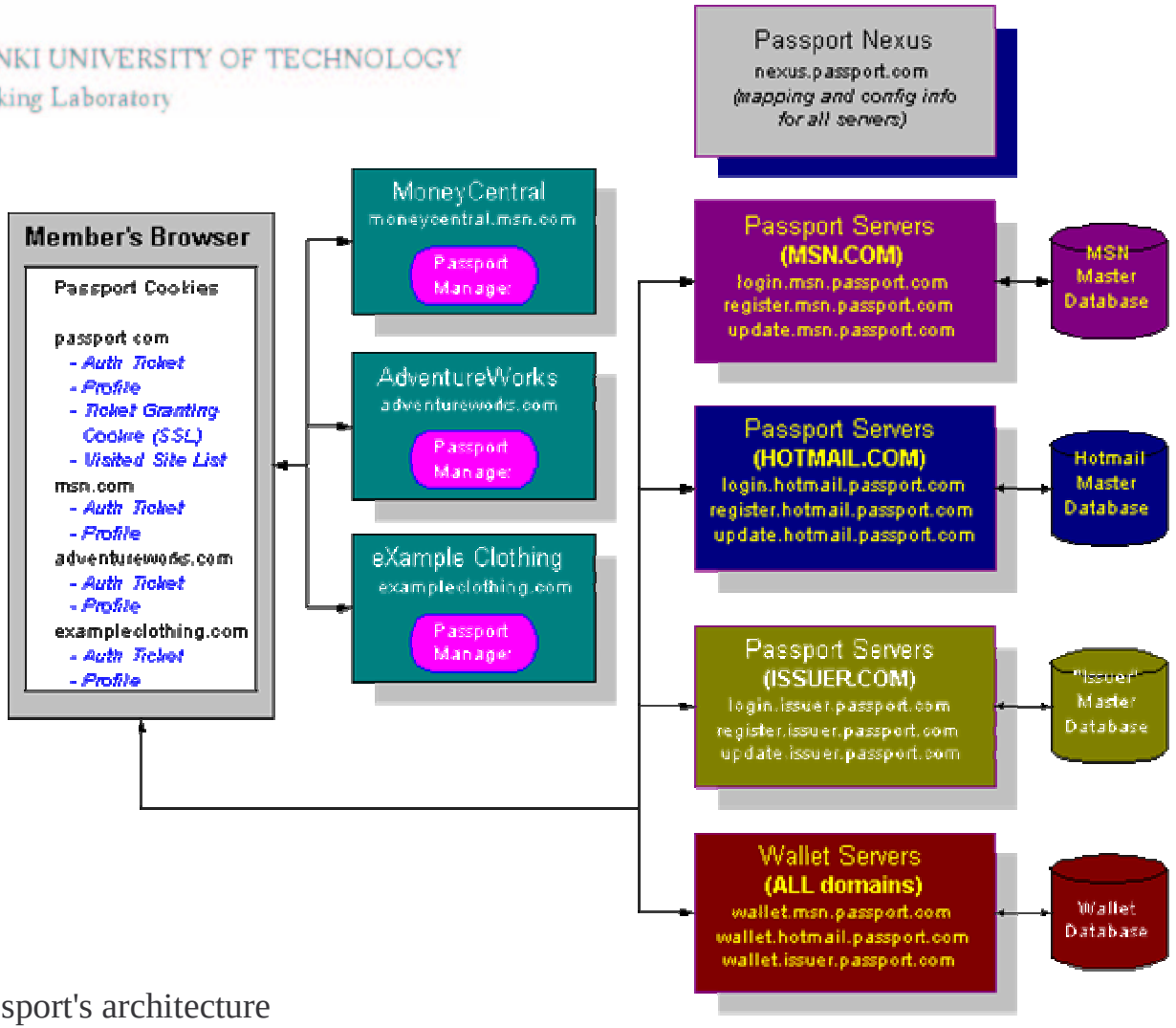

Figure 5. Passport's architecture
Source: Microsoft Corporation

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Status in Finland

NOKIA
CONNECTING PEOPLE

SETEC

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Network ID Product pioneer SETEC

Famous for it’s smart cards

- In 2000 the world's first payment card based on EMV&PKI technology
- In 1999 developed the world's first, PKI SIM card
- In 1998 launched SIM card with a Wireless Internet Browser.
- In 1995 first in the world to develop a PKI smart card with 1024-bit keys.

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World Telecommunications leader NOKIA

- June 2004 **Nokia** and Sun Microsystem co-published a new white paper “Deploying Mobile Web Services using Liberty Alliance’s Identity Web Services Framework (ID-WSF) ”
- One of the ten member companies offer Liberty Alliance interoperable products (passed the conformance tests)
- In Sept 2001 **Nokia** was one of the founders of the **Liberty Alliance,** board member and key impetus