Liberty Alliance Project
Identity-based Web services for the Mobile Ecosystem
Mission:
To serve as the premier open Alliance for federated network identity management & services by ensuring interoperability, supporting privacy and promoting adoption of its specifications, guidelines and best practices

Goals:
– Provide open standard and business guidelines for federated identity management spanning all network devices
– Provide open and secure standard for SSO with decentralized authentication and open authorization
– Allow consumers/businesses to maintain personal information more securely, and on their terms
Liberty Alliance Overview
A Technical View of Identity
The Business of Identity
Liberty Alliance Project

Open organization for identity based Web services, that aims to create a networked world through
- enhancing interaction between individuals and businesses
- respecting the privacy and security of shared identity information

Driven by end-users, government organizations, and vendors
With ~150 member organizations

Board and sponsor members include:
Liberty Organization (NEW!)

Management Board

14 sponsors
Responsible for overall governance, legal, finances, and operations
Final voting authority for specifications

Business Marketing Expert Group
- Develops requirements and use cases
- Responsible for evangelism and public relations
- Develops business templates and guidelines
- Accelerates market creation

Technology Expert Group
- Develops technical architecture
- Develops technical specifications
- Defines interoperability & conformance programs

Service Expert Group
- Develops technical service marketing requirements and specifications
- Defines service interoperability & conformance programs

Public Policy Expert Group
- Advises on privacy, security, and global public policy issues
- Liaison to privacy groups and government agencies
- Develops privacy guidelines and best practices for publication

Conformance Expert Group
- Oversees the conformance-testing program
- Implements conformance testing programmes for new specification releases

All members provide feedback on early drafts
Liberty track record

1/2002
• Specification development starts

7/2002
• Phase 1 Specifications

11/2003
• Phase 2 Specifications Finalized
• 1st Conformance test event (Madrid)

12/2003
• 9 products announced as “Liberty Interoperable”
• Demonstrates interoperability among 20 products
• Contributes Phase 1 specifications to OASIS

6/2003
• Business Guidelines Tier 1
• Phase 1 specifications released in Japanese

10/2003
• Conformance program announced
• “Multitrack” model – Services EG

04/2003
• Phase 2 specification drafts
• Demonstrates interoperability among 20 products
• Contributes Phase 1 specifications to OASIS (SAML)

Q1/2004
• Mobile Business Guidelines*
• Demonstrations of products and services implementing Phase 2 specifications

12/2003
• 9 products announced as “Liberty Interoperable”

* Announced @ 3GSM
Liberty Alliance Activities

- Privacy and Policy guidelines, discussions with authorities (EU, US)
- Business Guidelines, Adoption, Conformance testing – to ease the implementation of the specifications
- Architecture- and Service-oriented specification work
- ID-FF and SAML activities are merged into OASIS SSTC, to avoid fragmentation and increase the quality of SSTC deliverables

Liberty Identity Federation Framework (ID-FF)
SPECIFICATION WORK IN OASIS SSTC
CONFORMANCE TESTING IN LIBERTY ALLIANCE

Liberty Identity Services Interface Specifications (ID-SIS)

Liberty Identity Web Services Framework (ID-WSF)

Business guidelines
Privacy and Policy
IOP and Conformance testing
Adoption and evangelism activities

Liberty specifications build on existing standards (SAML, SOAP, WSS, XML, etc.)
## Membership Categories

<table>
<thead>
<tr>
<th>Membership Categories</th>
<th>Sponsors</th>
<th>Associates</th>
<th>Affiliates</th>
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</table>
| **Sponsors**          | • Full participation and voting in any or all Expert Groups  
                        • Can run to fill Management Board vacancies  
                        • Representatives can be officers in Expert Groups  | **Associates**  
Can view and comment on draft specifications prior to public release  
Access to alliance member web site  
Can attend All Participants meetings  
Can participate in Services specification work | • For government agencies, educational institutions, and non-profit organizations only  
• Same privileges as Associate members, except for participation in Services specification work |

| Membership Fee (per year): | >25,000 employees: $50,000  
1,001-25,000 employees: $35,000  
Up to 1,000 employees: $10,000  
Board membership: $150,000 | **Membership Fee (per year):**  
$2,500 | **Membership Fee:**  
None |

[http://www.projectliberty.org](http://www.projectliberty.org)
Nine Products passed the first Liberty Alliance conformance testing (ID-FF 1.1)

- Earned usage of the Liberty Interoperable logo:
  - Ericsson
  - Nokia (Nokia WAP Gateway)
  - NTT
  - NTT Communications
  - NTT Software
  - Phaos Technology
  - Ping Identity
  - Sun Microsystems
  - Trustgenix

Support for Phase 2 specifications announced by AOL, Nokia, France Telecom / Orange, Phaos, Ping Identity, SUN, Trustgenix, and Vodafone
Strong support - member companies represent around:*  
- 55% of mobile infrastructure  
  (all standards included)  
- 50% of mobile handset volumes  
- 75% of SIM providers  
- More than 200 million mobile subscribers  

* Based on public market share statistics, and member companies’ own data; third quarter, 2003
Recent Announcements

- Availability of version 1.0 of the mobile business guidelines:
  - Will help the mobile ecosystem with guidance and “checklists” when implementing Liberty specifications

- Identity Theft white paper
Liberty Alliance
A Technical View of Identity
AOL and Nokia demonstrate the use of the Liberty Alliance Identity-based Web Service Framework (ID-WSF)
User view

I always have *my* radio; at work, at home, in my car. On my PC or phone - with my favorite presets.
Application recognizes *my* radio station and *my* music
1. Get the security token and address of the Discovery Service

2. Get the security token and address of Radio@AOL Service

3. Save and write presets.
   - Get genres & stations.
   - Get stream url for a station

4. Ultravox stream with quality AAC encoded sound & song/artist info

ID-WSF core messages, for all services

ID-WSF service specific messages
Series 60 Application

1. GetSSC(Radio@AOL)

2. Send/Handle (xmlMsg)

3. Ultravox stream

(ID-WSF) Radio messages with correct headers for security, load balancing, etc.

(ID-WSF) Get security token and address of DS

Radio@AOL

Ultravox Stream Server

Serene = WS support in Series 60/90

Authentication service

Discovery service

AOL Infrastructure

AOL Infrastructure
Easy development of Web Services applications based on open standard Liberty Alliance Identity based Web Service Framework (ID-WSF).

Series 60/90 developer is shielded from the complexities of security, reliability and privacy.

More, and better integrated, applications in all sectors: enterprise, entertainment, infotainment, etc.

Seamless user experience for service based applications that are used on a variety of devices, including PCs and mobile phones.
Liberty Alliance
The Business of Identity
Emerging as the Standard for Mobile Identity Services

WWW.PROJECTLIBERTY.ORG
Liberty Alliance members lead the mobile industry

- Combined Market shares
  - 200+ million mobile subscribers
  - 50% of the mobile devices
  - 80% of all SIM’s
  - 55% of the mobile network infrastructure

Liberty Alliance is already emerging

- Interoperable Products
  - Ericsson, Nokia, NTT (3), Phaos, Ping, Sun Microsystems and Trustgenix
- Available Pilots and Demonstrations
  - AOL, France Telecom / Orange, Phaos, Ping Identity, SUN, and Vodafone
Identity is foundation for ALL web services
Liberty provides the framework for identity management
  - Authentication… who a user is
  - Consent… does a user agree with an action
  - Attributes… data and preferences for the user
The Mobile Industry is Identity-Ready

1.3 Billion Global Users
Voice is interoperable
Text is interoperable

Identity is next
Circle of Trust
Access Channel: Setup, Research, Queries, Shopping, Maintenance

WWW Fixed, Mobile or wLAN

Service Providers
Network Operators
Governments
Banks / FI’s
Corporations
Merchants
Medical care
...

Identity Channel: Strong, 2-Factor Authentication and User Consent

Identity is the foundation in all web services
Standards accelerates availability and lowers cost
Mobile Problems are Identity Related
- Roaming
- Privacy
- Usability
- Regulatory

Mobile Specific Identity Concepts Integrated
- Mobile Specific Authentication Classes
- Utilization of SIM-U/SIM
- Solutions to for rapid deployment and backward compatibility
- Mobile terminals are taken everywhere

Provides solution beyond mobile view
- Integrated approach from both mobile and fixed world
Identity’s Near-term Markets

Identity Services
Access Control
Remote Payment
1. Identity Provider
   - Service providers rely on the operator to authenticate a user using operator-defined means and credentials
   - Roaming enables worldwide access to services

2. Service Provider
   - Identity providers (such as banks and corporations) are able to add their credentials to an operator’s SIM
   - Neutral 3rd-party loader possible for confidentiality

3. Attribute Provider
   - Identity and Service providers receive user data (such as location) from the operator to personalize the user’s experience
   - User controlled setup and optional confirmation
Mobile Assisted Access Control

Target Markets
- Corporate VPN’s, Home Banking, Government Portals…

Possible Formats
- One-time Password (OTP)
  - Device generates OTP and user enters OTP into the login screen (example phone displays below)
  - Low back-end integration effort, current de facto standard, no communication problems (at PC or inside a building)
- Challenge / Response (Symmetric or PKI based)
Size of Existing Market

- 20M Authentication Tokens or a possible...

1.3 Billion Mobile Phones

- Multi-purpose devices improve user satisfaction

Annual Cost of Authentication

<table>
<thead>
<tr>
<th>Method</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password</td>
<td>14€</td>
</tr>
<tr>
<td>Authentication Token</td>
<td>36€</td>
</tr>
<tr>
<td>SMS Push</td>
<td>30€</td>
</tr>
<tr>
<td>Mobile Assisted</td>
<td>15€</td>
</tr>
</tbody>
</table>

- Shared infrastructure reduces costs
Remote Payment is the fastest growing, most expensive method of payment
- Costs merchants twice what in-person payment does
- Total Fraud market in US and UK alone was USD $2.5B in 2002

Who Pays for Fraud Now?
- Merchants pay nearly 2B Euros, or 90%, of fraud-related costs
  - Losses and Charge-back fees
- Issuing banks will be liable under 3D Payment rules beginning 2005
  - Cannot pass costs onto credit/debit card holders
- Users are not directly liable, but Identity Theft costs individuals on average $500 USD and 30 hours to correct per incident (US FTC, 2003)

Mutual ‘Sweet-spot’
- Most Mobile and eCommerce users are under 40 years old

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Usage Percentage</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>87%</td>
<td>UK Office of Telecommunications Nov 02</td>
</tr>
<tr>
<td>25-34</td>
<td>85%</td>
<td>{An Unbanked Market}</td>
</tr>
<tr>
<td>35-44</td>
<td>83%</td>
<td></td>
</tr>
</tbody>
</table>
Possible Payment Processors

- Micro-payment (< 10€’s)
  - Operators, including SIMpay, can deduct from pre-pay or add small charges to a monthly bill
  - Satisfies a market need
  - Could address person-to-person payments

- Macro-payment (> 10€’s)
  - Issuing banks could add the equivalent of their bankcard, such as an EMV app, into the SIM
  - Approaches a lower-cost, ‘card-present’ transaction model that could guarantee payment for the merchant
  - Uses the existing ‘4-corner’ payment model
Mobile Assisted Remote Payment

On the PC

1. BUY

2. Enter PIN
   ****
   OK Cancel

3. www

Existing ‘4-Corner’ Payment Model

- Issuing Bank
- Acquiring Bank
- Payment Networks
- WWW Access Channel
- Identity Channel
- Service
The Benefits

Operators
Service Providers
Users
Benefits… the Operator

? New revenue
  – Identity services including user authentication and consent
  – Infrastructure sharing, including SIM, with other ID providers, when operators choose not to be the identity provider because of risk or geographical coverage
  – New data services generate an increase in data traffic
  – Third-party billing enables event-based pricing models for non-operator related services and guaranteed payment for small transactions

? Interoperability
  – Liberty framework enables data and services to be exchanged between operators, i.e. “Identity Roaming”
  – Liberty compliance simplifies the service-provider interface, and without many operator proprietary interfaces, accelerates integration and availability
Positions the mobile network as a preferred channel for trusted services

- Operators can link disparate identity information (between fixed, Internet and wireless accounts) while using pseudonyms to protect user information
- Mobile operators can confirm a user’s request to exchange private data securely (e.g. presence, geolocation) with services that use the information
- The mobile network is commercially ready; it is trusted, managed, convenient, reliable and regulated
Benefits... the Operator

? User convenience
- Single Sign-on (SSO) allows users to move seamlessly between federated services without entering numerous user names and passwords
- Permission-based Attribute sharing enables personalization of the service delivery; providing a better customer experience.

? Regulatory Compliance
- Liberty’s privacy framework and pseudonymous linking allow users to log-on anonymously and still have access to their designated services.
- Interaction with governing agencies promotes an acceptable sharing of services with other services in a country or across national borders
Benefits... the Service Provider

? Larger Available Market
  – Service providers reach all possible users (regardless of their choice of operator) through a single interface

? Lower Cost-of-Business
  – A standard developer framework
    • Lowers the integration effort and accelerates time-to-market
  – Options for enhanced identity services
    1. ‘Outsource’ the overhead of user authentication to an identity provider, such as the operator… allows a service provider to focus on the value provided to users
    2. ‘Lease’ infrastructure, such as the operator’s SIM, and save on stronger user authentication
Benefits... the User

**Convenience**
- Single Sign On – seamlessly move between services with less data entry
- Personalized experience via permission-based attribute sharing

**Lower Costs**
- Lower cost-of-business translates to lower prices
- Economy of scale – worldwide market increases competition... improving price

**Privacy & Confidence**
- Users set privacy controls
- Users control service federation
- Users decide what data is shared
- Pseudonyms allow ‘anonymous’ access to services

**More Services**
- Standardized interface accelerates time-to-market
- Improved authentication reduces risk of identity fraud and allows more services
... the Crossroads of Identity

Mobile / Telephony

Access Control / IT

Financial

Government & Consumer
Liberty Provides Mobile

- New Revenue Opportunities
  - Extend Trust Relationship
  - Delivery of Data Services
  - Extend and protect business models

- Bridge with Fixed
  - Single Framework
  - Mobile Specific Solutions
  - “One Internet”

- Better Customer Experience
  - Streamlined
  - Common services experience
  - Trust and User Control

- Liberty is the place for mobile to deliver identity solutions
5. The place to develop solutions for identity in the mobile space – influence according to your needs
4. Network with leading vendors, service providers and governments
3. Get jumpstart on product development through early access to specifications
2. Participate in the development and use of business implementation guidelines
1. Identify and implement means to improve your company’s bottom line
• Speak with any existing Liberty member to join or to set up additional meetings

• Email: MembershipInfo@projectliberty.org

• Website: www.projectliberty.org/membership