

Identity-Centric Digital Public Services “How can we align?”

British Columbia Identity Forum Role of Public Sector

Kirk Brown

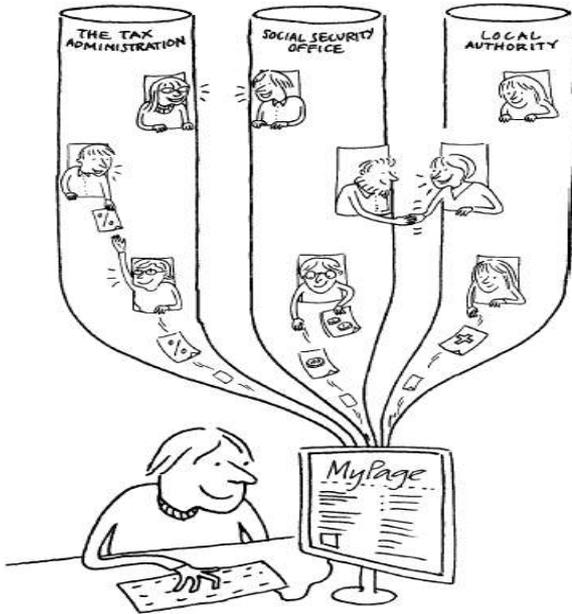
CTO Identity Practice

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Agenda

- ☑ **Identity & The Public Sector**
- ☑ Planning for Change
- ☑ Digital Public Service Designs
- ☑ Current Success in eGov

A coordinated and user-adapted public sector



“My Government. My Terms.”

No-one should be in doubt as to whom the public sector shall serve!

Today's Challenges

- The complex problem & ability to:
 - discover
 - access
 - authorize
 - and share information
- Multi-Source Info helps in:
 - Planning
 - Collaboration
 - Decision
 - Action

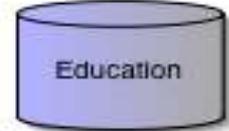
E-Government, Homeland Security, Dept Ministries, Natl Health, Local Gov, Environmental Management...



JAVA
 C/C++/C#
 Scripts
 HTTP

Unix
 Linux
 Windows
 Mainframe

Legacy
 RDBMS
 Proprietary

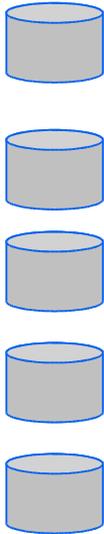


Unified Systems of Citizen Support

- Secure Collaboration
- Timely Information
- Relevant Information
- Accessible Information



**Secure
Web
Services**



Power of Trust & Interoperability



Health

Education

Hydro

Gov

Justice

Once We can discover, access, integrate and share information from multiple sources, We can begin to collaborate.

Interoperability is a key to information sharing.

Trust is the key to acceptance.

Best Practices: Digital Public Sector For Citizens

- Gov wants everyone to have the opportunity to participate in the “information society”.
- Digital services must be adaptable and focused on the needs of the individual.
- Ensure good digital skills throughout the population.
- Prepare for exceptional privacy and data protection.
- Contribute towards a “culture” of information security and engender more trust with each transaction.
- Manage access to online services and knowledge.



Best Practices: Digital Public Sector For Business & Industry

- Government creates a good framework for:
 - Promoting value creation thru innovation and change
 - Services that simplify interactions, reduce paperwork
 - Reasonable access to public sector info that can be used to create new valued services
 - Ecommerce to increase competitiveness
 - Research and development enablement: international leaders in the use of technology, skills and knowledge.
 - A government driven process approach to policy creation....this is not a technology issue.

Identity is a Core Requirement



Citizens



Employees



Partners



Web Services

- **Who has access to what resource?**
- **What can users do with that access?**
- **How much does secure access cost me?**
- **How do I quickly deploy new services?**
- **How do I comply with laws & regulations?**



Directories



Databases



OSS/CRM
Billing



Custom Systems

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Identity Management Defined

“Identity management is the business processes and technologies for managing the lifecycle of people, devices and systems and their role, entitlements and relationship to data, applications and services both inside and outside the organization.”

5 BIG! Digital Identity Axioms

- Identity & Authentication
 - Who is this? & Who says so?
- Confidentiality
 - No eavesdroppers!
- Integrity
 - Did anyone modify something?
- Authorization & Entitlements
 - What you can and **cannot** do
- Regulatory & Business Compliance

Citizen Centered Services

Secured Web Services

Access Management

Business policy: Liability, assurance for transactions
Relationships: people, groups, and organizations

Applications and services: Access and Authorization
Relationships: identities and information

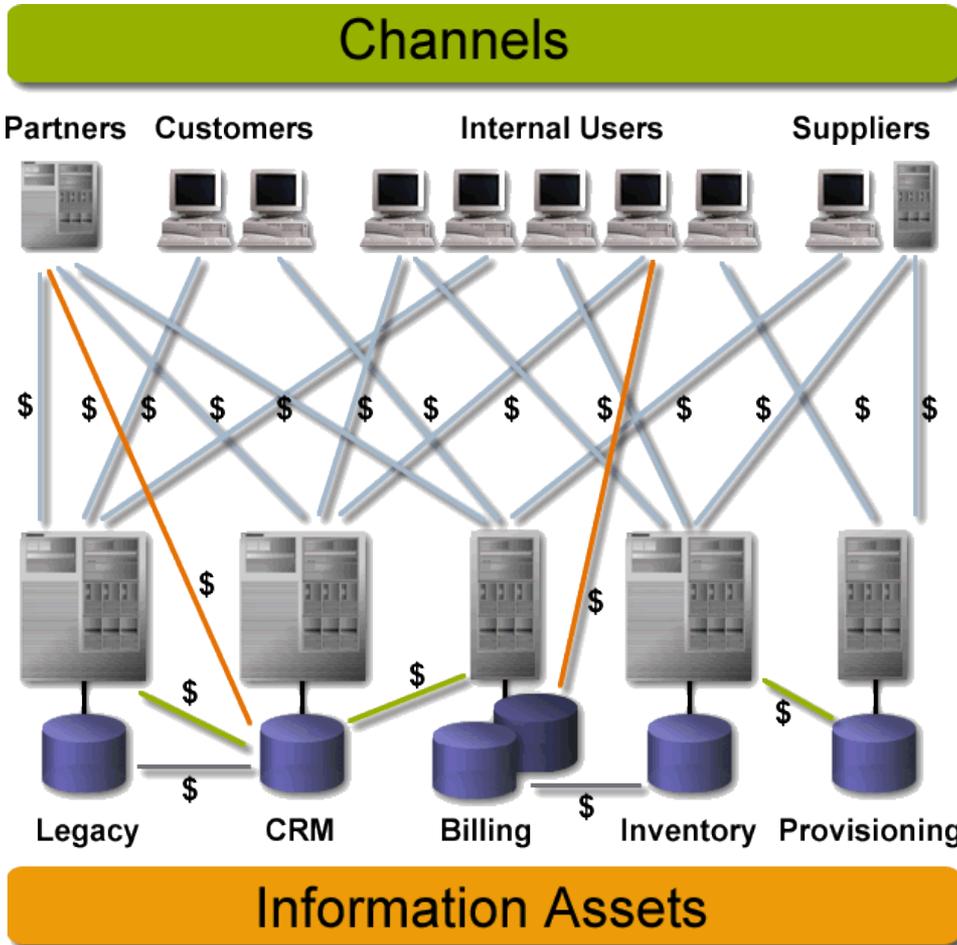
Presentation/Personalization: What the user sees
Relationships: users and quality of experience

Personal Identity

(person, application, group, organization)

Current Approaches Must Change

Silo Oriented Architecture



Mature information systems grow old *disgracefully* as successive waves of hacking result in **accidental architectures** which resist the reflection of on-going business process change.

- **Anthony Lauder & Stuart Kent; University of Kent. (2000)**

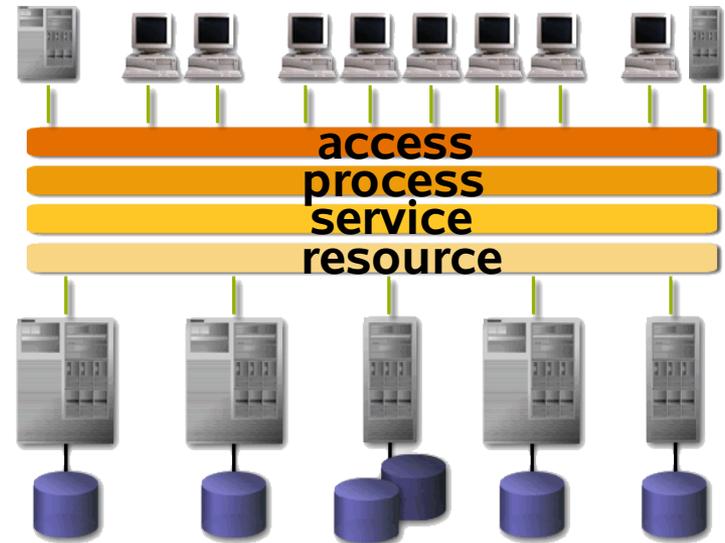
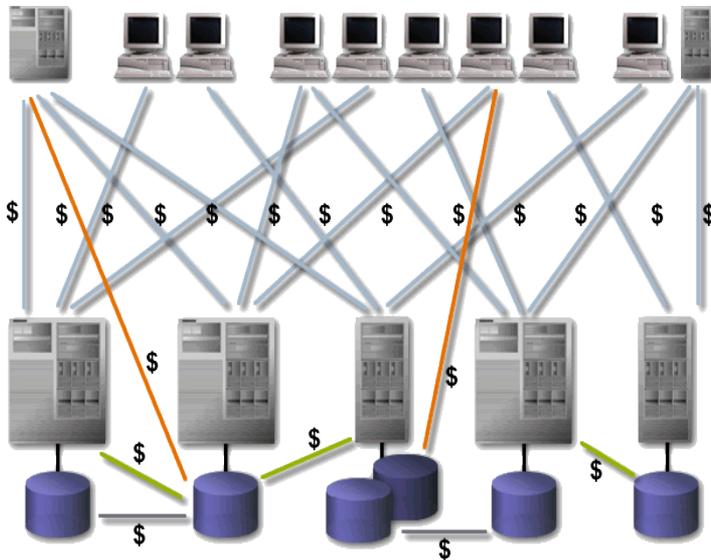
- Rigid
- Complex
- Expensive
- Slow to Market
- Monolithic
- Hard to Integrate

The “Move” to Service Orientation

Accidental
Rigid
Silo-Oriented

Iterative
Incremental
Service Enablement

Layered
Extensible
Service-Oriented



Identity becomes Just a service

What are Secured Web Services?

Policy-based, Federated Networks

Context-sensitive authentication, attributes, and authorization



Employees



Citizens



Partners



Devices

Liberty is the foundation for the next generation of highly personalized Web services

Liberty Alliance - www.projectliberty.org

- More than 150 member organizations globally
- Driven by end-users, government organizations and vendors
- Led by Technology, Business and Public Policy Expert Groups

Sponsor Members



Management Board Members



What is Liberty?

Vision:

A networked world in which individuals, businesses, organizations and institutions can more easily interact and collaborate with one another while respecting the privacy and security of shared identity information.

NOT just about technology...

- Addressing the “whole issue” of identity with
 - policy
 - privacy
 - business/marketing
 - technology
- Interoperability conformance testing & certification

What are Liberty Advantages?

- Wide-spread adoption
 - Multiple vendor competition
 - Freedom of choice
- Convergence with other standards
 - e.g., SAML2.0, Shibboleth
- Federated authentication model
 - No central point of failure
- Built on standards
 - Works with existing legacy systems and future development plans
- Privacy & security best practices
 - Create trust for all participants
- Conformance testing & certification
 - Provides for multi-product interoperability

1 Billion Liberty enabled devices by close of 2006

120 million citizen identities w/ Liberty

72 million online service provider users under Liberty

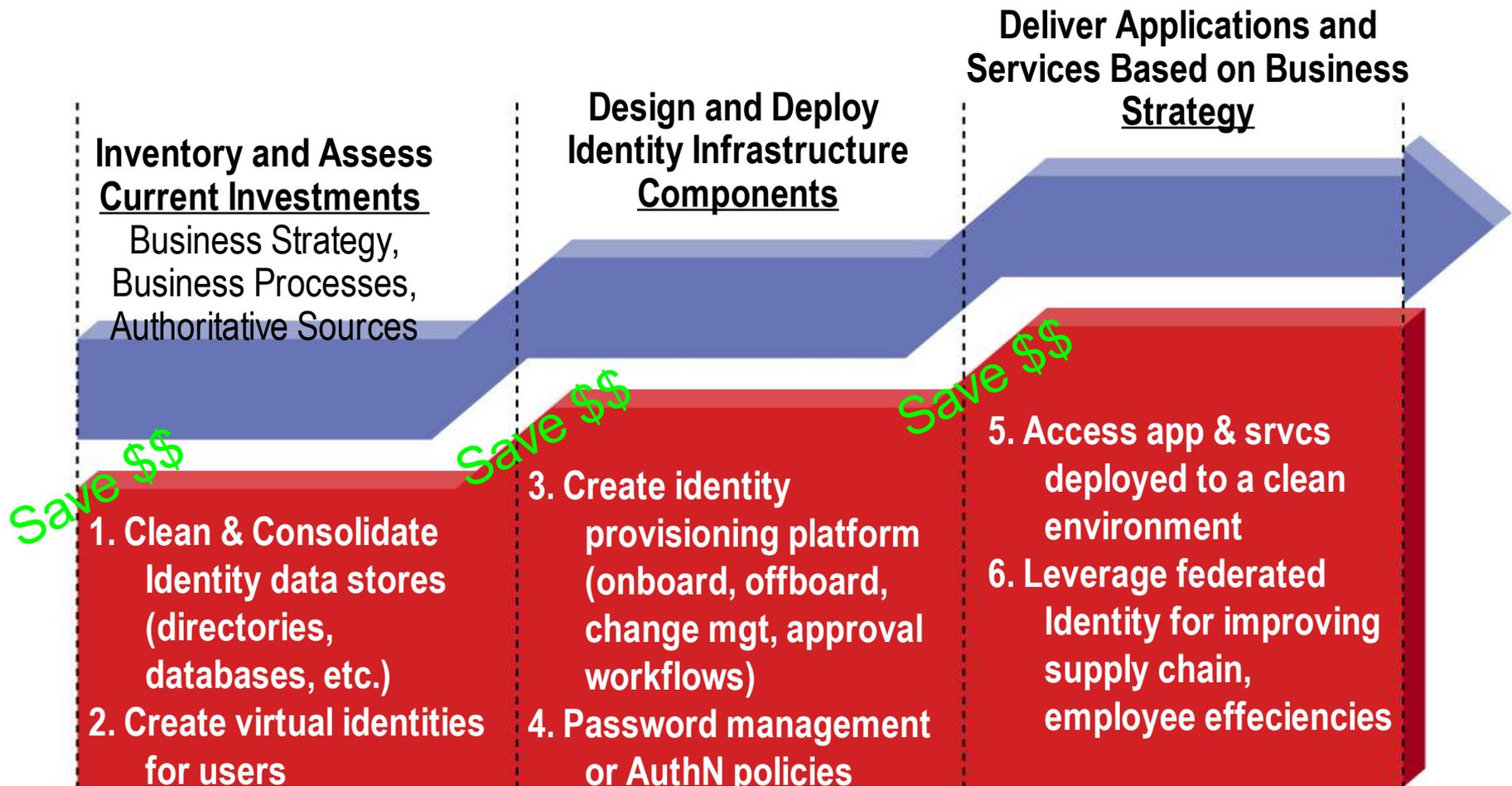
20 million enterprise identities w/ Liberty

ID Deployment Best Practices

- Common Mistakes:
 - Lacks detailed understanding of Identity Products
 - Uses custom code instead of product functionality
 - Scope Creep in the use cases.
 - No articulation of Use Case to implementation.
 - When replacing out dated existing system, the customer expectation is 1:1 functionality.
 - Set proper expectations.
 - To many moving parts, too many people touching code.
 - No source code control (Config files uncontrolled)
 - Customer lead architect takes charge (not good).
 - Tries to do too much in phase 1

Do You Have an Identity Strategy In Place?

Getting your Identity Infrastructure in Order



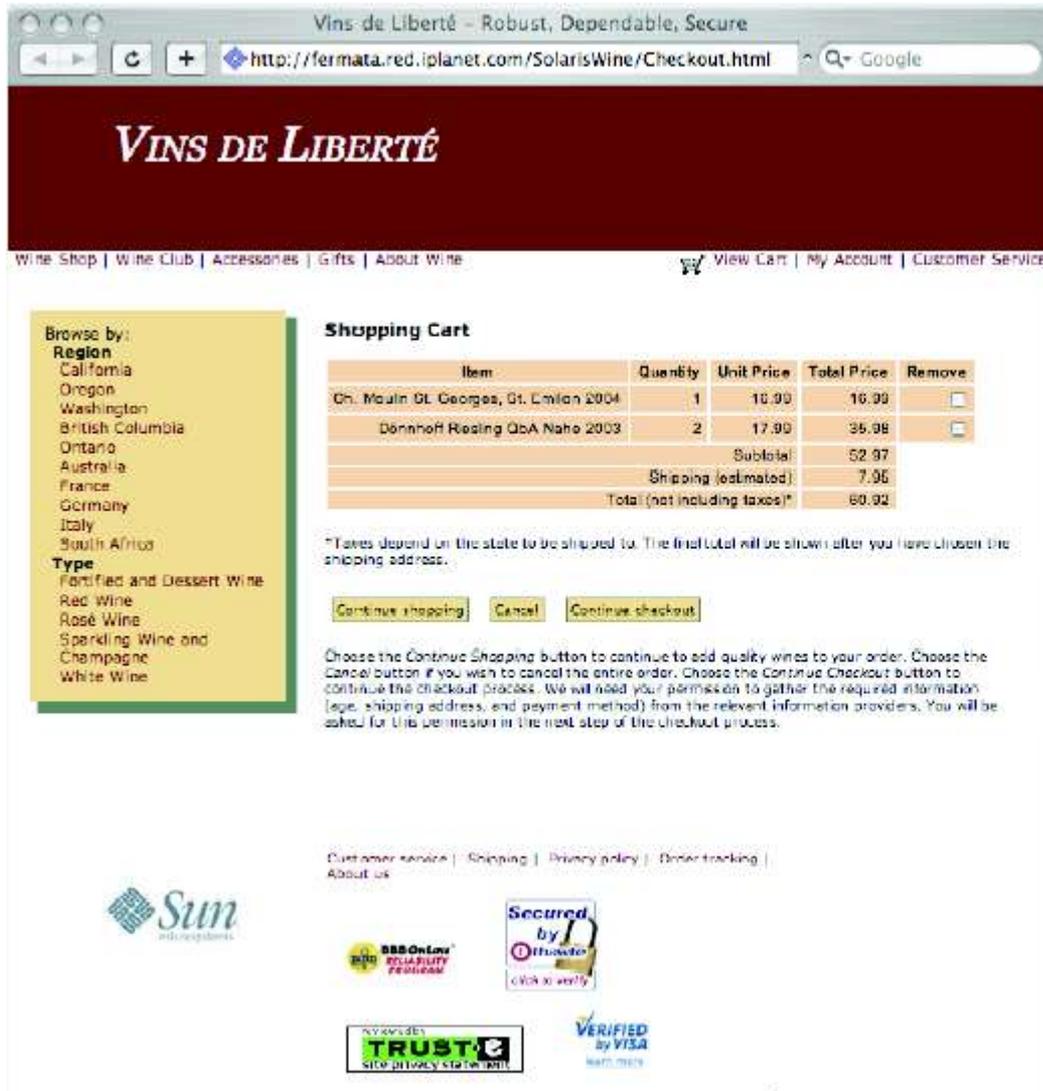
Agree & Create Common Use Cases

- 1 Rights and entitlements should be segmented from the digital content and applications.
- 2 Rights should be based on roles/groups (viewer, owner, manager, author, consumer, editor)
- 3 Consumers can request access that is automatically approved or denied based on specified criteria (policy)
- 4 Authors and Owners can self-administer updates, provisioning and accesses
- 5 Policy and rules of access can be delegated and managed locally or remotely
- 6 Variable sets of entitlements and rights can be associated with the same content
- 7 Users can be associated with multiple, filtered or nested roles
- 8 Digital rights systems should be able to operate over different computing environments (Unix, Microsoft, Linux, etc.)
- 9 Users can be collected in groups and groups can be assigned entitlements to various digital content, or systems.
- 10 Group access can be static or filtered by policies, workflows and rules.
- 11 The system should not be intrusive rather easily inter operable with other systems, such as, content delivery systems, email systems, directory services, relational database systems, legacy systems, billing systems, customer care and document management systems.
- 12 The system should be highly available and scalable supporting users into the millions.
- 13 The system should support remote automated workflow to improve visibility and control over rights and management of digital content.
- 14 Auditing and reporting support for business and legal compliance to the effect of “Who did what? To what? When?”.
- 15 Support for regulatory compliance such as Sarbanes-Oxley, HIPPA and other regulatory and privacy acts.
- 16 Management is based on open standards, yet supports other non-standard environments through interoperability.

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Liberty Use Case - step 1



Vins de Liberté - Robust, Dependable, Secure

http://fermata.red.iplanet.com/SolarisWine/Checkout.html

VINS DE LIBERTÉ

Wine Shop | Wine Club | Accessories | Gifts | About Wine

View Cart | My Account | Customer Service

Browse by:

Region

- California
- Oregon
- Washington
- British Columbia
- Ontario
- Australia
- France
- Germany
- Italy
- South Africa

Type

- Fortified and Dessert Wine
- Red Wine
- Rosé Wine
- Sparkling Wine and Champagne
- White Wine

Shopping Cart

Item	Quantity	Unit Price	Total Price	Remove
Ch. Moulin St. Georges, St. Emilion 2004	1	16.99	16.99	<input type="checkbox"/>
Dönnhoff Riesling QbA Nahe 2003	2	17.99	35.98	<input type="checkbox"/>
Subtotal			52.97	
Shipping (estimated)			7.95	
Total (not including taxes)*			60.92	

*Taxes depend on the state to be shipped to. The final total will be shown after you have chosen the shipping address.

Choose the Continue Shopping button to continue to add quality wines to your order. Choose the Cancel button if you wish to cancel the entire order. Choose the Continue Checkout button to continue the checkout process. We will need your permission to gather the required information (age, shipping address, and payment method) from the relevant information providers. You will be asked for this permission in the next step of the checkout process.

Customer service | Shipping | Privacy policy | Order tracking | About us





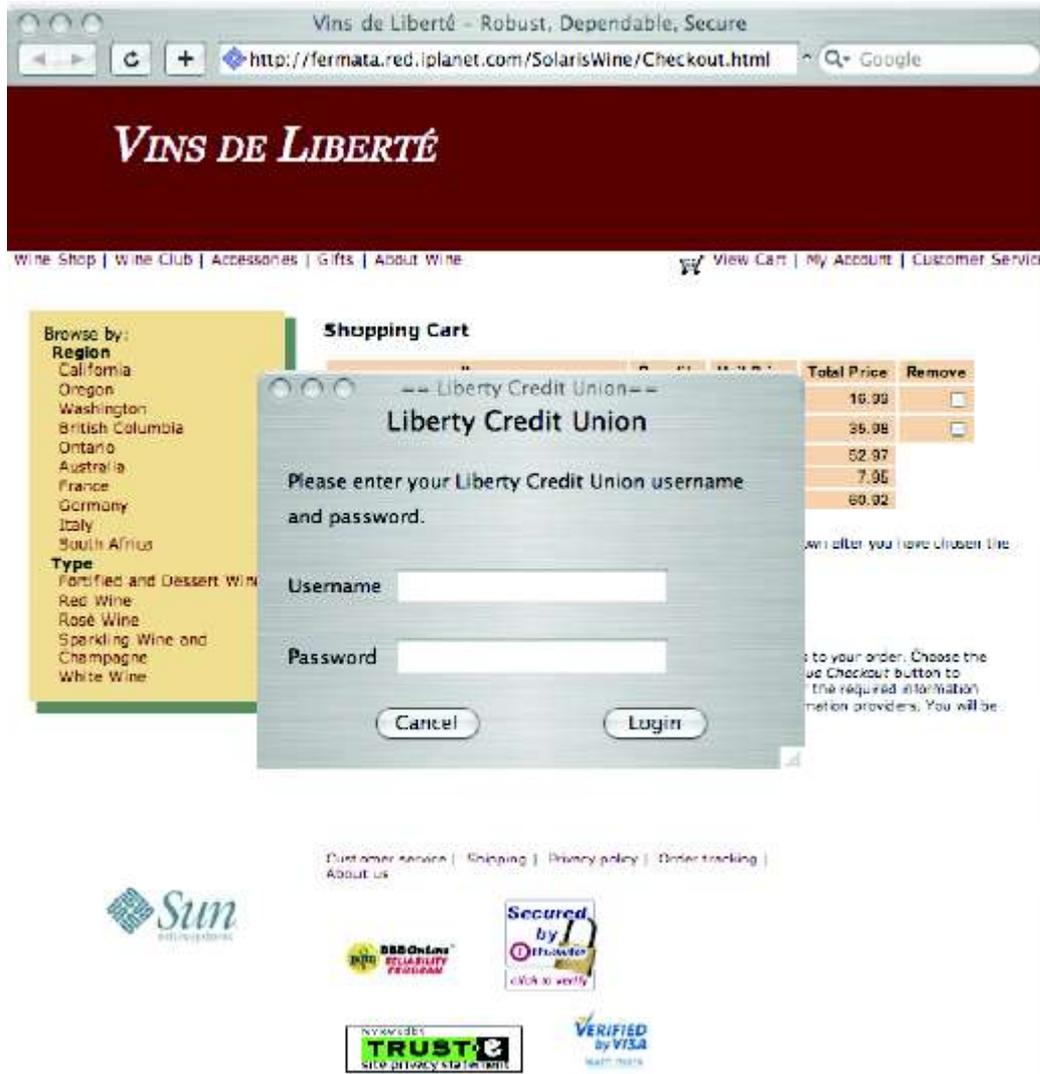



Completing a purchase at a wine merchant website

The user has to prove he is old enough to buy wine online, and that he can pay for it.

For this he has to log in to his bank or similar institution (we call it an *Identity Provider*).

Liberty Use Case – Step 3



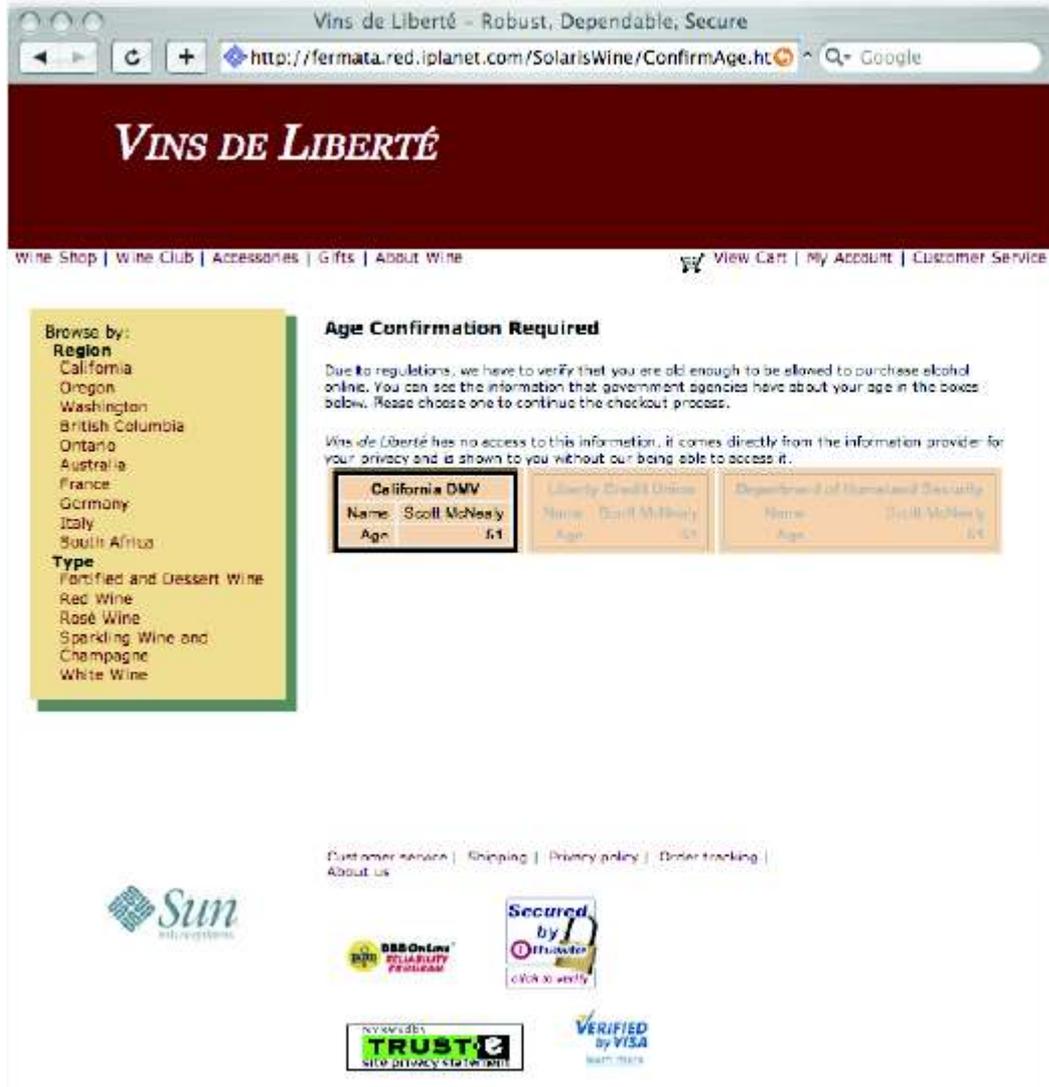
Logging in at the identity provider

The user logs in to the Liberty Credit Union, which acts as the *identity provider*, allowing the applet to retrieve the list of relevant *attribute providers*.

An attribute provider holds one or more pieces of identity data about the user. For example, the Department of Motor Vehicles might hold the user's age and address, while his bank (along with being the user's identity provider) holds financial information.



Liberty Use Case – Step 4



Selecting attribute providers for name & age

The applet recognizes that the site has asked for name and age information and lets the user select among the relevant attribute providers for supplying this information.

The user selects the one he wishes to use. Upon clicking the card, the corresponding data (name and either age, or, potentially, "the user is over the legal drinking age") is sent to the wine merchant

Liberty Protocol:

- Discovery Service
- Data Service Template



Liberty Use Case – Step 5

Vins de Liberté - Robust, Dependable, Secure

http://fermata.red.iplanet.com/SolarisWine/ChoosePayment - Google

VINS DE LIBERTÉ

Wine Shop | Wine Club | Accessories | Gifts | About Wine

View Cart | My Account | Customer Service

Browse by:

Region

- California
- Oregon
- Washington
- British Columbia
- Ontario
- Australia
- France
- Germany
- Italy
- South Africa

Type

- Fortified and Dessert Wine
- Red Wine
- Rosé Wine
- Sparkling Wine and Champagne
- White Wine

Choose Your Payment Method

The total cost of your purchase, including taxes and shipping to the final destination, is shown.

Item	Quantity	Unit Price	Total Price
Ch. Moulin St. Georges, St. Emilion 2004	1	16.99	16.99
Dönnhoff Riesling, ObA Naha 2003	2	17.99	35.98
Subtotal			52.97
Shipping			7.95
Taxes			5.00
Total (including taxes)			65.92

To complete your order, please choose a method of payment from one of your payment information providers. To change your list of payment information providers, edit your customer profile.

Selecting a payment method will initiate payment, but does not provide Vins de Liberté with your card details.

Liberty Credit Union

Name: Scott McNulty

Credit Card: xxx-xxx-xxx-3142

[Continue shopping](#)
[Cancel this order](#)

Customer service | Shipping | Privacy policy | Order tracking | About us

Selecting attribute providers for a means of payment

Now the wine merchant requires a means of payment. Since only one attribute provider has this information, only one choice is provided.



Liberty Use Case – Step 6

VINS DE LIBERTÉ

Wine Shop | Wine Club | Accessories | Gifts | About Wine | [View Cart](#) | [My Account](#) | [Customer Service](#)

Browse by:
Region
 California
 Oregon
 Washington
 British Columbia
 Ontario
 Australia
 France
 Germany
 Italy
 South Africa
Type
 Fortified and Dessert Wine
 Red Wine
 Rosé Wine
 Sparkling Wine and Champagne
 White Wine

Choose Your Shipping Address
 Please choose a shipping address. This may be your billing address, or another shipping address.
 For your convenience we list shipping addresses from information providers you have listed with us in your customer account. To change your list of information providers, edit your customer profile.
 To choose another shipping address, check the "choose another address" button. You will have the chance to add gift options.

California DMV		Liberty Credit Union		Department of Homeland Security	
Name	Scott McNealy	Name	Scott McNealy	Name	Scott McNealy
Address	4170 Network Circle Beaverton, OR 97005	Address	2100 Kala Road Hendrix, NC 28534	Address	1901 Willow Road Ft. Belknap, VA 22035

[Choose Another Address](#)

Customer service | [Shipping](#) | [Privacy policy](#) | [Order tracking](#) | [About us](#)

Selecting attribute providers for the address

On this page, the user can choose one of his known shipping addresses provided by an attribute provider, or type in one by hand, e.g., for a gift shipment.

Again, this mediation of attribute information is handled by the applet and is done totally outside the scope of the wine merchant site.

Liberty Protocol:

- Discovery Service,
- Data Service Template



Use Case Moving Parts

Uses Sun Java System **Access Manager** & **Federation Manager** for Liberty infrastructure

http://www.sun.com/software/products/federation_mgr/index.xml

http://www.sun.com/software/products/access_mgr/index.xml

The Liberty Alliance Open Standards can be found at:

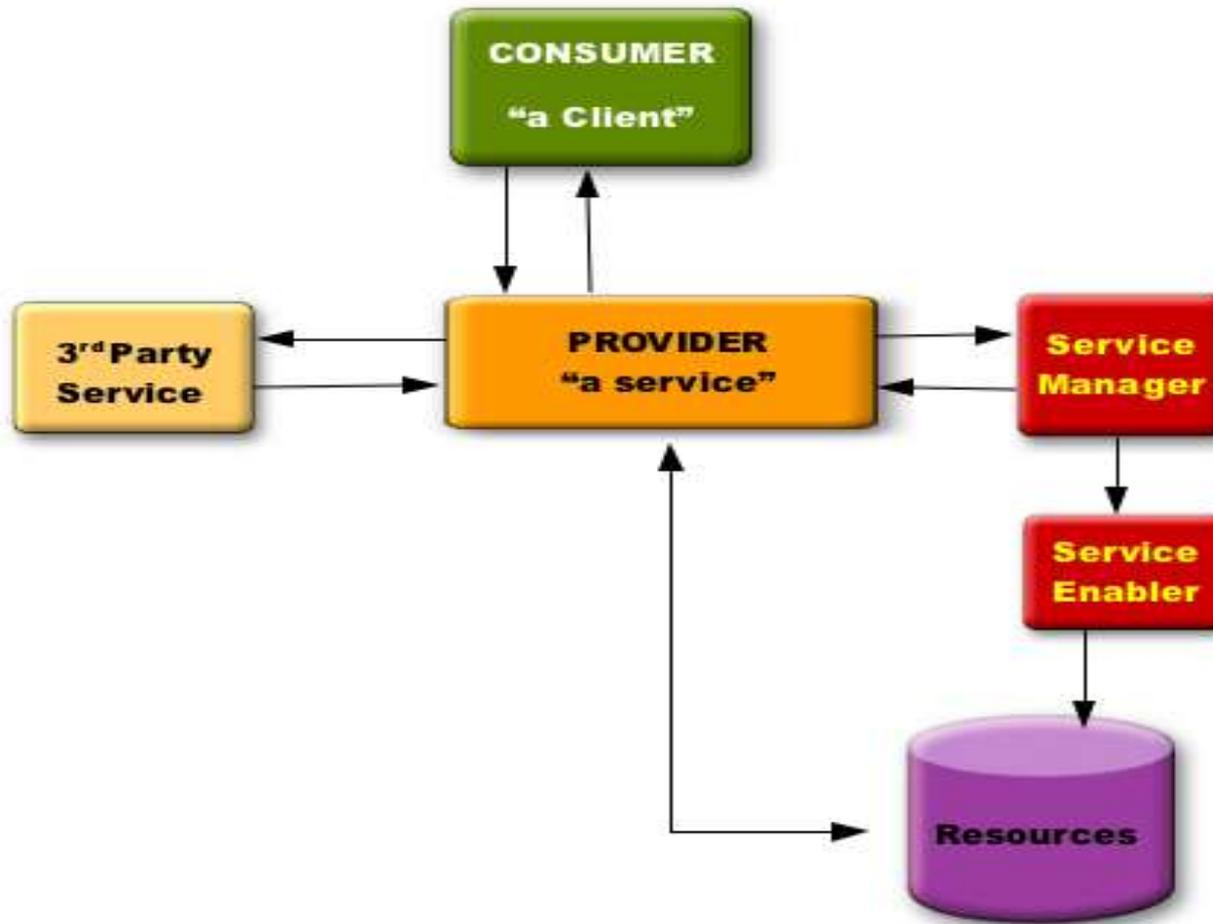
<https://www.projectliberty.org/resources/specifications.php>

System requirements:

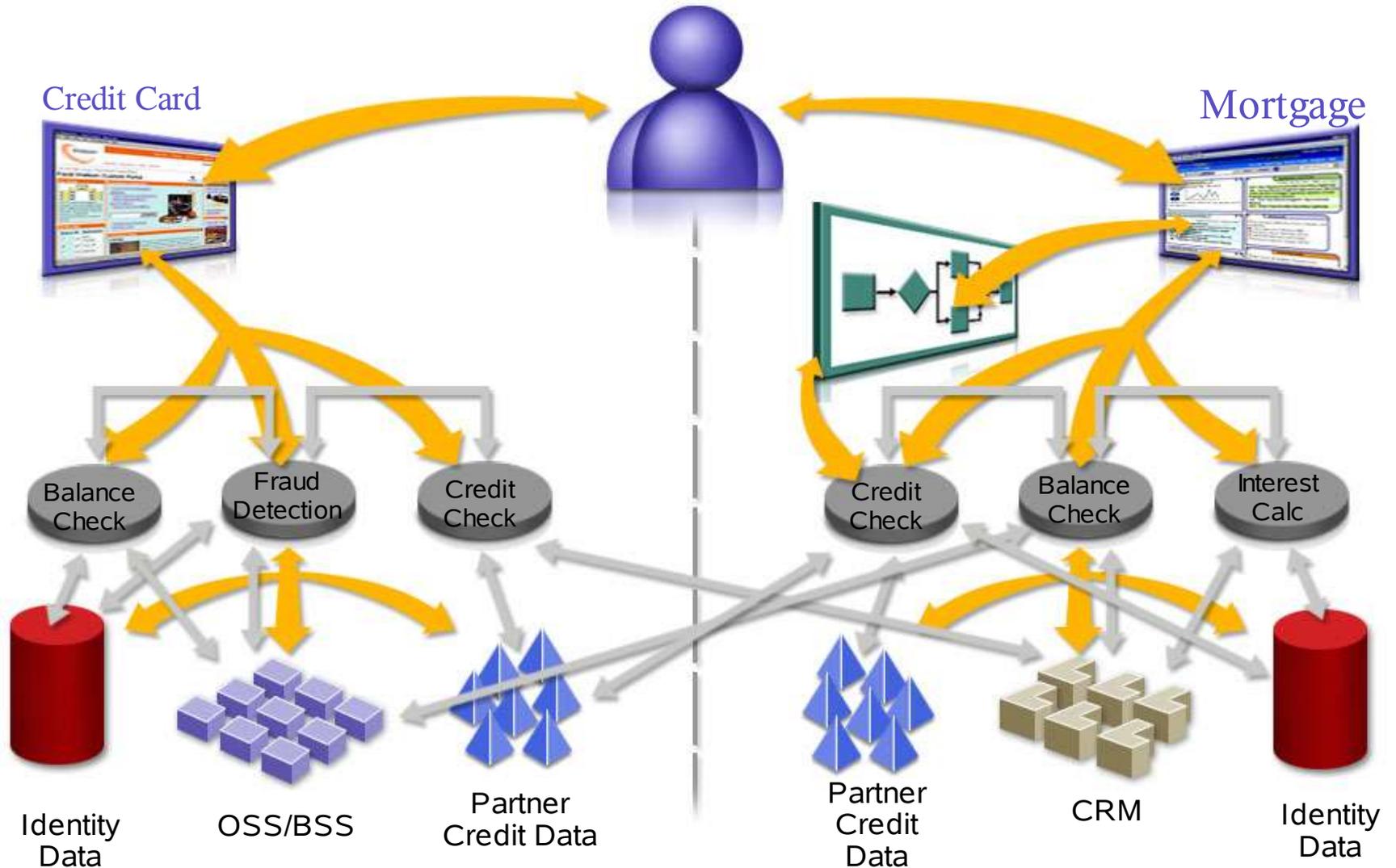
- Java 1.5
- Browsers: Firefox, Mozilla, Safari, Internet Explorer
- Platform: Solaris 10, OS X, Linux, Windows XP

Developed with NetBeans 5.0 (<http://www.netbeans.org/>)

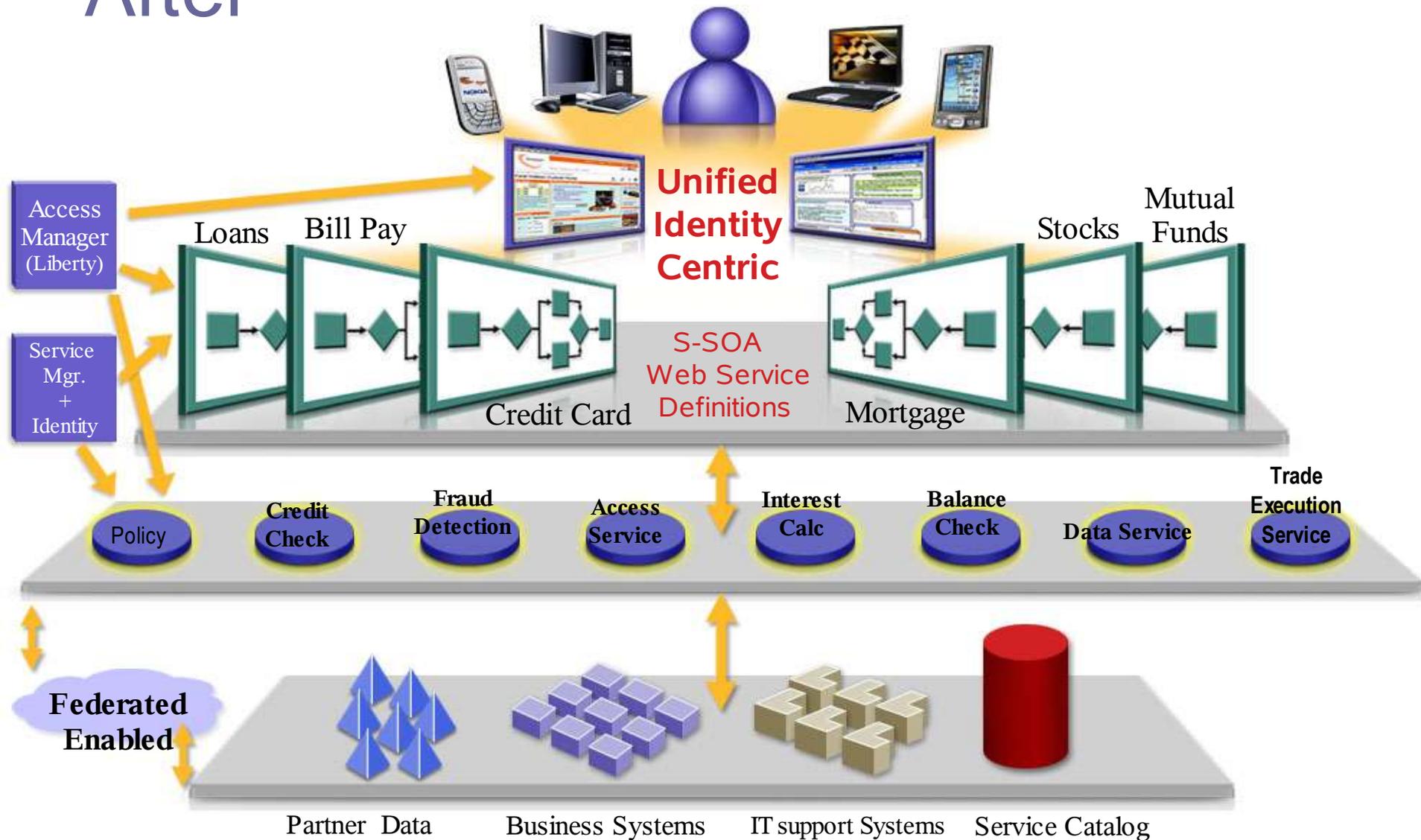
Core Architecture



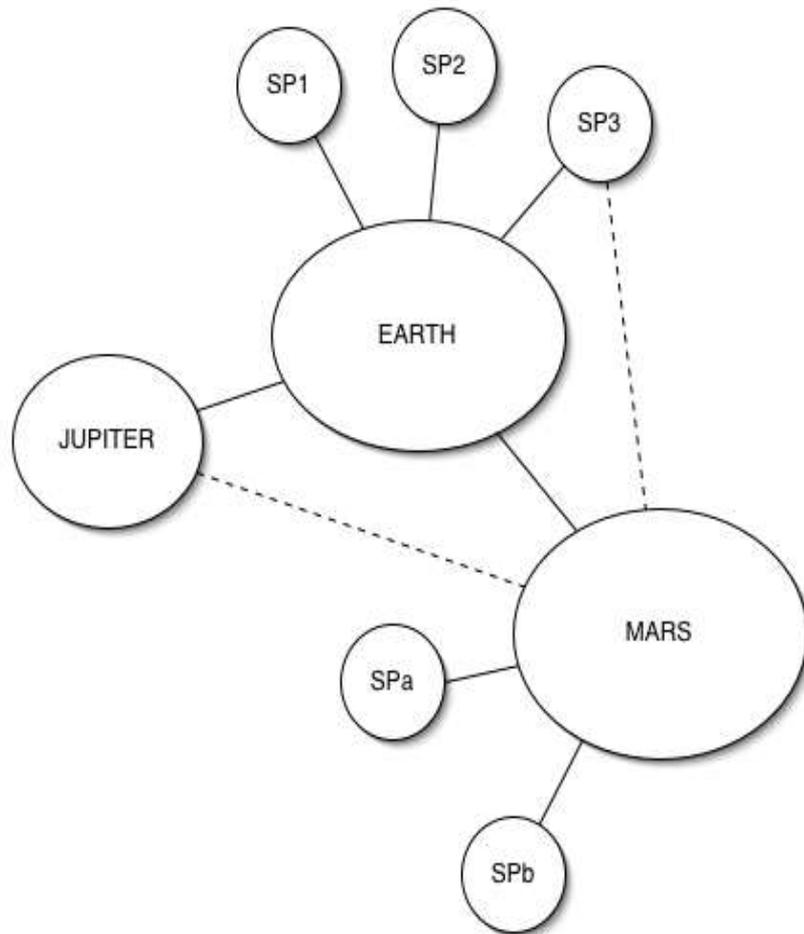
Before



After



Federated, Centralized Affinity Model



- Hub and Spoke design.
- Infrastructures and their assets need to be carefully accessed, authorized and shared.
- The design model must be as flexible as possible and accommodate a variety of technology from multiple vendors and standards.
- The design is segmented into “domains” that represent an agreement, an entity or an affiliate in a circle of trust.

Chevron Interop Study

75 tests using SAML 1.1

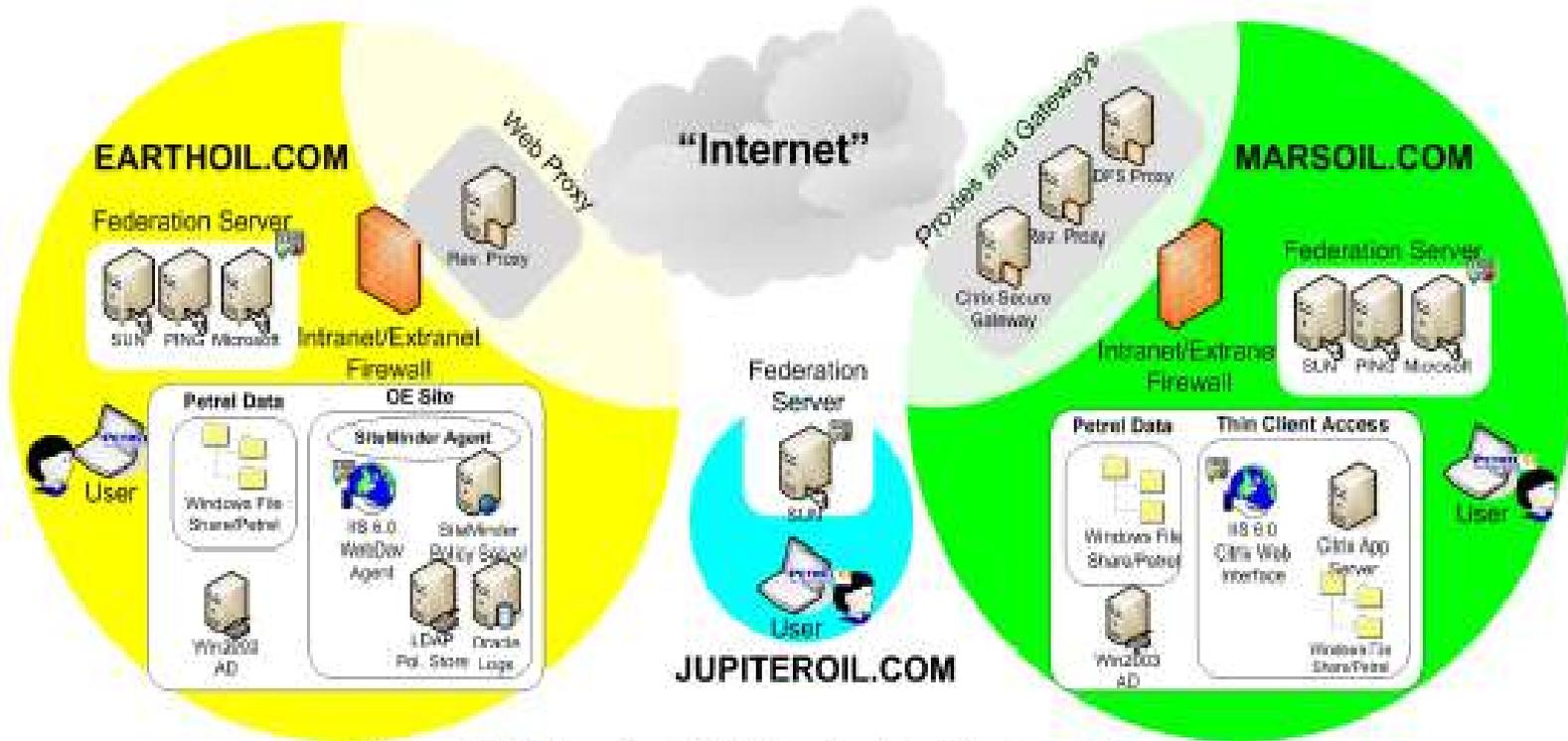


Figure 4: Federation POC Logical Architecture Layout

Identity Aware and Enabled Storage

End to End DATA Lifecycle Management



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Sun Momentum



1 million+ Employees Managed
Millions of Users Served!

Blue Cross Blue Shield of MA

Multi-Channel Interactions

Company Details

- The largest health insurer in New England with 2.4 million members and more than 3500 employees
- Over \$4.3B revenue 2003
- Ranked 4th among all healthcare providers in US on *InformationWeek* 500 survey (Nov 03)



Business Challenges

- Drive to **improve member satisfaction** through **new services** provided via **multiple distribution channels** including **self-service web**
- Need to more easily enable **new partner relationships**
- Providing **access to existing legacy** systems in back office becoming **unmanageable and costly**
- **HIPAA compliance deadlines**
- Technologies include MQ, CICS, VSAM, IMS, Oracle, TPS Claims Mgmt and RTMS Policy Mgmt

"The implementation of the SeeBeyond solution affirms our commitment to implementing the finest technology to operate our business."

**Carl Ascenzo, CIO,
BCBSMA.**

Blue Cross Blue Shield of MA

Multi-Channel Interactions

Solution Overview

- Implemented new **service-oriented architecture** based on Sun Java Enterprise System and SeeBeyond
- Sun JES - started with Sun Identity Management Suite
- **Multiple front-office applications and channels** enabled including Web, wireless, IVR (voice), EDI (partners) and desktop (customer service reps)
- Integration engine to manage **HIPAA compliant messages**



"We chose the Java Enterprise System because we needed a base software infrastructure with the best price/performance."

Frank Enfanto, VP of operations delivery and information security, BCBSMA

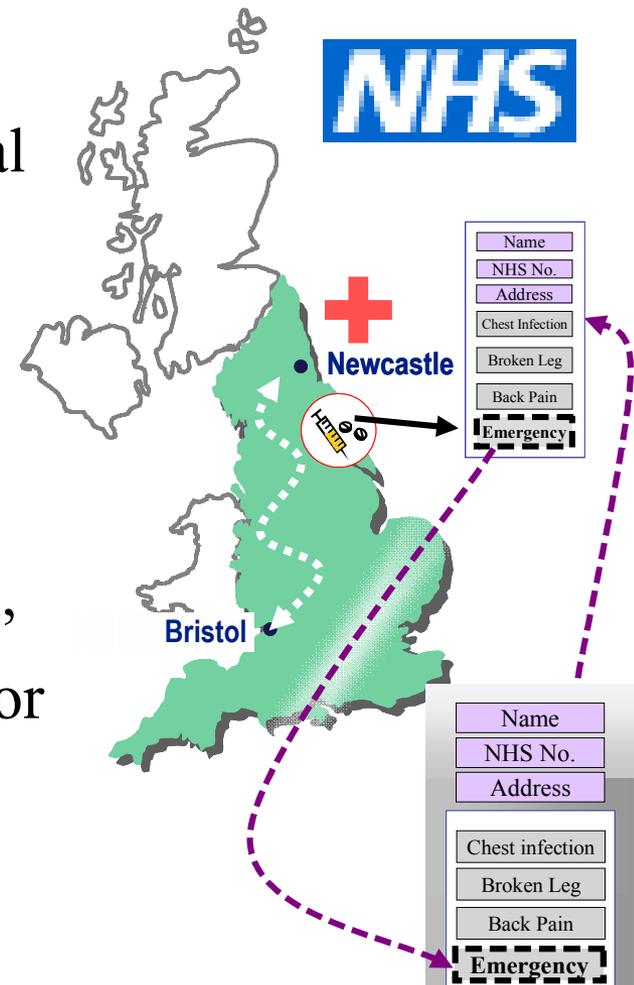
Business Benefits

- Realized **multi-million dollar savings** in development costs
- Services offered to customer through **channel of preference**
- **Respond rapidly** to market opportunities with **new service offerings**
- New channels and partners can be integrated into Services Oriented Architecture in a fraction of the time, and at a fraction of the cost, providing **significant competitive advantage**
- With JES, **"the more you use, the more you save"**

The UK National Health Service

- Integration backbone for all of UK National Healthcare
- 50+ million patients with life-long healthcare records
- 600,000 providers (doctors, nurses, scientists)
- 10,000 systems & 40,000 sites
- 6 billion transactions per year for the National Service Provider (NASP) “Spine”
- 56 billion to 66 billion messages per year for the Local Service Providers

175 million transactions per day!



www.nhs.uk

NHS in England 

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You are here: NHS England

- ▶ **NHS England**
- ▶ News
- ▶ Doctors
- ▶ Dentists
- ▶ Opticians
- ▶ Pharmacies
- ▶ Hospitals
- ▶ Social Care Services
- ▶ No Appointment Needed
- ▶ Authorities and Trusts
- ▶ About the NHS
- ▶ Choosing Your Hospital
- ▶ My Favourites

Choosing Your Hospital

- What is choice?
- Finding your local choices
- Easy steps to making your choice
- Log in to Choose and Book

About the NHS

- How does the NHS work?
- A history of the NHS
- Standards in the NHS
- Comment on the NHS

- Select local NHS**
- ▶ Scotland
 - ▶ Wales
 - ▶ Northern Ireland

- Quick Links**
- ▶ NHS Direct 0845 4647
 - ▶ Self Help Guide
 - ▶ Common Health Questions
 - ▶ Health Encyclopaedia
 - ▶ Best Treatments
 - ▶ HealthSpace
 - ▶ Support Groups
 - ▶ Health and Care for Young People
 - ▶ NHS Jobs
 - ▶ NHS Careers
 - ▶ Department of Health

More Choice For Patients

**Choosing
your hospital**
 You can now choose where to have your treatment

Patient choice becomes a reality across the NHS
 NHS patients in England can now choose where and when they get hospital treatment. Patients now have the right to choose between at least four hospitals or clinics when they need to see a specialist for further treatment.
[More about choosing your hospital.](#)

Finland Board of Taxes



Created Identity Provider (IDP) for on-line tax payment and management of official documents. The initial phase is serving 2.6 million citizens.

http://www.projectliberty.org/about/adoption_egov.php#usgov

- **Requirements gathering was finished in May 2005**
- **Call for tenders in June 2005**
- **Selected supplier in August 2005**
- **Project started in September 2005**
- **Phase I, November 2005**
 - SAML 2.0 WebSSO
 - ID-WSF
- **Phase II, January 2006**
 - IDP and authorization
- **Phase III, February 2006**
 - Federation

Benefits

- **E-services enables significant cost savings**
 - Every transaction made in office costs 20 – 50 euros and an e-transaction 10 – 50 euro cents
- **Simplified processes**
 - Reduced 5 phases on e-filing
- **New possibilities to arrange e-services**
 - E.g. e-filing straight from Pay-roll –system instead of Tax portal web site
- **Life-cycle management (e.g. changes in management, users, mergers etc.)**
- **Reliable roles and authorization (audit-trail)**

Austrian Citizen Card



Provides on-line banking service using national card.
The initial phase is serving 8 million citizens.

The front of the card contains:

- Holder's signature and photo
- Holder's name
- Personal code (national ID code)
- Date of birth
- Gender
- Citizenship status
- Card number
- Card validity expiry date

Federated Identity is an increasingly important concept that can offer governments and businesses a convenient and secure way to control identity information, whilst helping promote the take-up of eGovernment and eCommerce services. Federated Identity Management (FIM) also has great promise in terms of development of cross-border eGovernment, potentially allowing citizens to flexibly access online services, regardless of the country they are in.

The reverse of the card contains:

- Holder's place of birth
- Card issuing date
- Residence permit details (if applicable)
- Card and holder data in machine readable format (except for the photo and signature)



http://www.projectliberty.org/about/adoption_egov.php#usgov

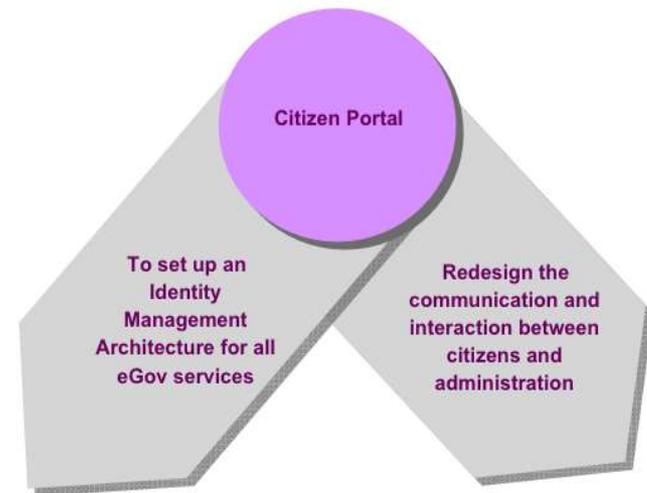
French Government



Public Service portal that allows every citizen to access different services based on a federated identity system. The project will serve 60 million citizens.

http://www.projectliberty.org/about/adoption_egov.php#usgov

- The **personalized service** "Mon service-public" will be accessible from the *service-public.fr* portal. It will enable every citizen to set up his or her own home page to access all the online public services of concern to him or her. Users will thus be able to **access all their official paperwork**.
- "Mon service-public" will incorporate the services developed by the administrations (taxes account, family benefits, etc...) and those developed by the ADAE (change of address, applications for certificates from the civil register, etc...).

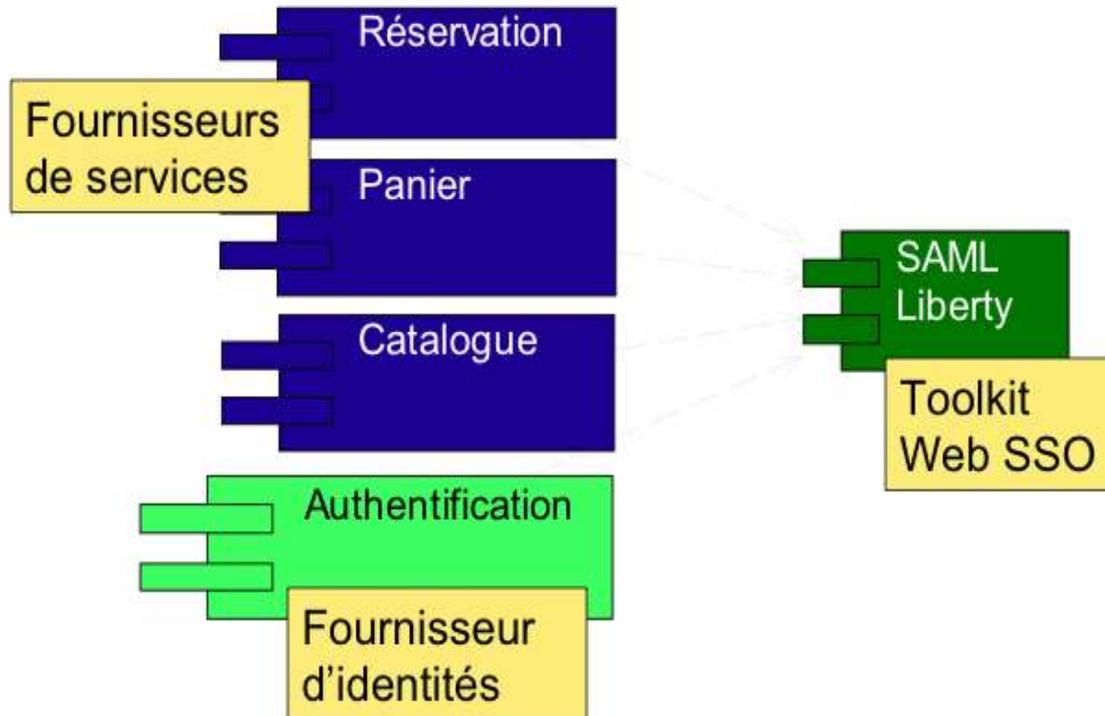


French National Library



Library account management and authorization. The project is serving 20,000 accounts and 6,000 authorizations per day.

http://www.projectliberty.org/about/adoption_egov.php#usgov



Deployment (4 man months):

- 3 developers
- 2 test engineers
- 2 system engineers
- 2 architects

US Government



Public Service federation that allows every citizen to access different services based on a federated identity system. The project will serve 10s million citizens.

http://www.projectliberty.org/about/adoption_egov.php#usgov

President's Management Agenda



- **1st Priority: Make Government citizen-centered.**
- **5 Key Government-wide Initiatives:**
 - ✓ Strategic Management of Human Capital
 - ✓ Competitive Sourcing
 - ✓ Improved Financial performance
 - ✓ **Expanded Electronic Government**
 - ✓ Budget and Performance Integration

US Citizen Political Action (BIPAC)

Repeatable solution for managing political action committee donations and the dissemination of election information. The project will enable 500K citizens EOY.

http://www.projectliberty.org/about/adoption_egov.php#usgov

- Each state regulates their own elections
 - Ranges from
 - Unlimited corporate contributions and advocacy
 - No corporate involvement whatsoever
- Penalties also vary
 - Most severe
 - Large personal fines for corporate officers
 - 10 Years jail time
 - Corporate charter is dissolved



Questions?

Sun Identity Management Suite

Fueling the Participation Age

Collaborative Enterprise



Federation Manager



Identity Manager SPE



OpenSSO

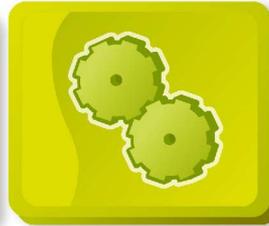
- Sun leads the way with more innovation for the collaborative enterprise



Directory Server
Enterprise Edition



Access Manager



Identity Auditor



Identity Manager

- Most comprehensive and integrated identity management for the extended enterprise

Extended Enterprise

Identity Manager Overview Topology

