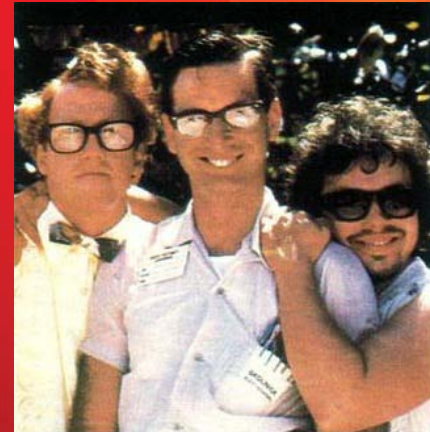




Enterprise Mashup Roundtable of Pattern Experts



Mike Ogrinz, Author of Mashup
Patterns

Chris Steel, Co-Author of Core
Security Patterns

John Crupi, Co-Author of Core
J2EE Patterns

Our Objective

Demonstrate how patterns can help drive Enterprise Mashup architectures and best practices.

About JackBe

Mashups can be whiz-bang simple, but in the enterprise, data management, application security and control, and complex user needs can complicate matters. JackBe's Presto provides professional-grade tools that streamline mass mashup production.”

- *Intelligent Enterprise*
February 2008



Best Enterprise Mashup Platform



SD Times 100 Mashup



i-flex solutions



ELSEVIER

Your Speakers



- Co-Author of 'Core J2EE Patterns'
- JackBe's CTO
- 8 years as CTO of Sun SOA Practice



- Co-Author of 'Core Security Patterns'
- Senior Security Architect, JackBe



- Author of 'Mashup Patterns'
- IT Director, Fortune 20 Financial firm





Agenda

- Enterprise Mashups Defined
- Patterns Defined
- Importance of Enterprise Architecture
- Mashup Patterns
- Mashup Patterns in the Enterprise
- Enterprise Mashups and Security
- Security Patterns in the Enterprise

Enterprise Mashups Definition

Enterprise Mashups are secure, visually rich web applications that expose actionable information from diverse internal and external information sources.

Source: wikipedia.org

Patterns Definition

Solution to a Recurring Problem in a Context

- * **Pattern Name and Classification:** A descriptive and unique name that helps in identifying and referring to the pattern.
- * **Intent:** A description of the goal behind the pattern and the reason for using it.
- * **Also Known As:** Other names for the pattern.
- * **Motivation (Forces):** A scenario consisting of a problem and a context in which this pattern can be used.
- * **Applicability:** Situations in which this pattern is usable; the context for the pattern.
- * **Structure:** A graphical representation of the pattern. Class diagrams and Interaction diagrams may be used for this purpose.
- * **Participants:** A listing of the classes and objects used in the pattern and their roles in the design.
- * **Collaboration:** A description of how classes and objects used in the pattern interact with each other.
- * **Consequences:** A description of the results, side effects, and trade offs caused by using the pattern.
- * **Implementation:** A description of an implementation of the pattern; the solution part of the pattern.
- * **Sample Code:** An illustration of how the pattern can be used in a programming language
- * **Known Uses:** Examples of real usages of the pattern.
- * **Related Patterns:** Other patterns that have some relationship with the pattern;

*Wikipedia

Evolution of Patterns based on Architecture

Domain

Mashups Patterns

Core Security Patterns

SOA Patterns

Core J2EE Patterns

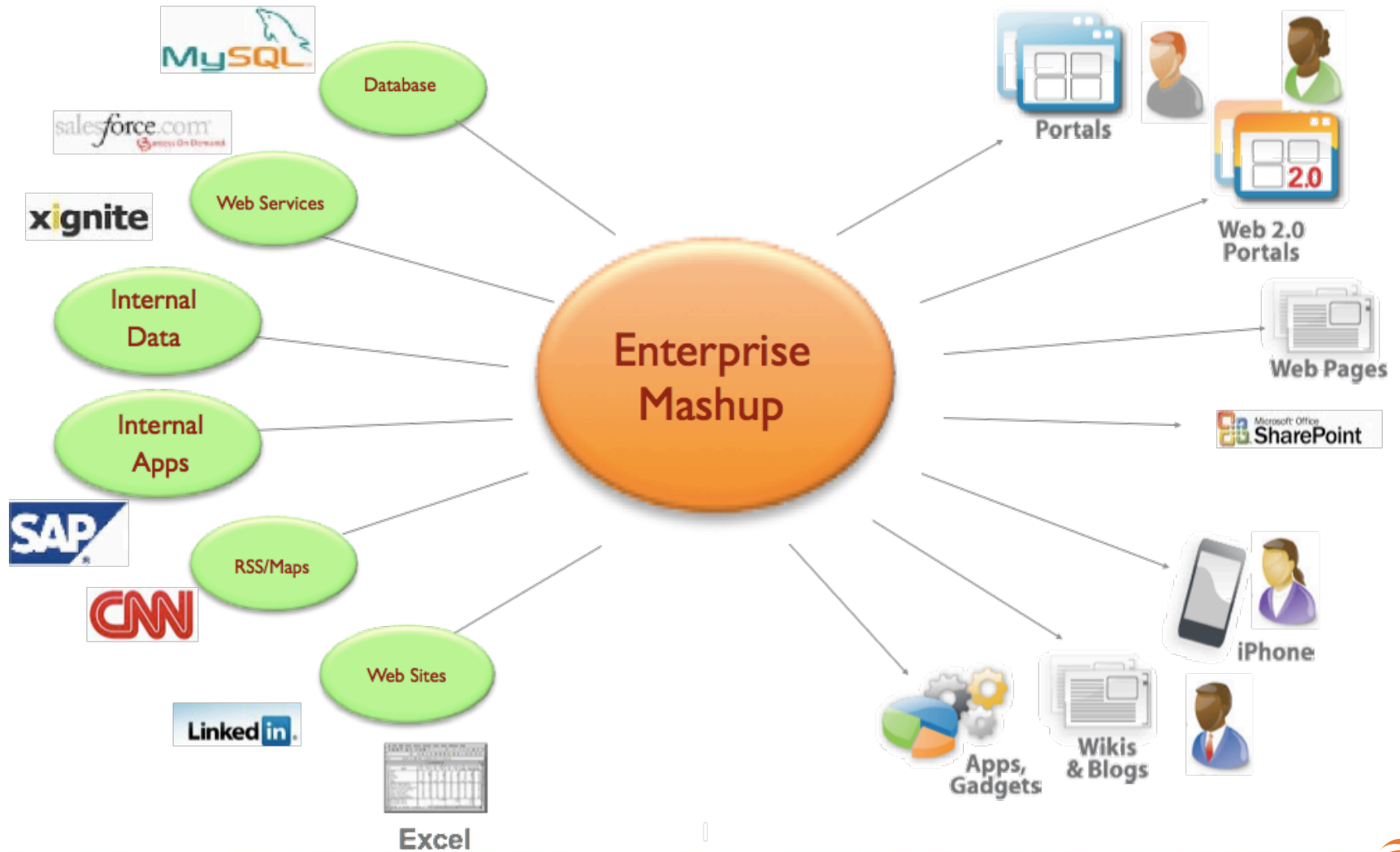
Fowler Enterprise Patterns

Architecture

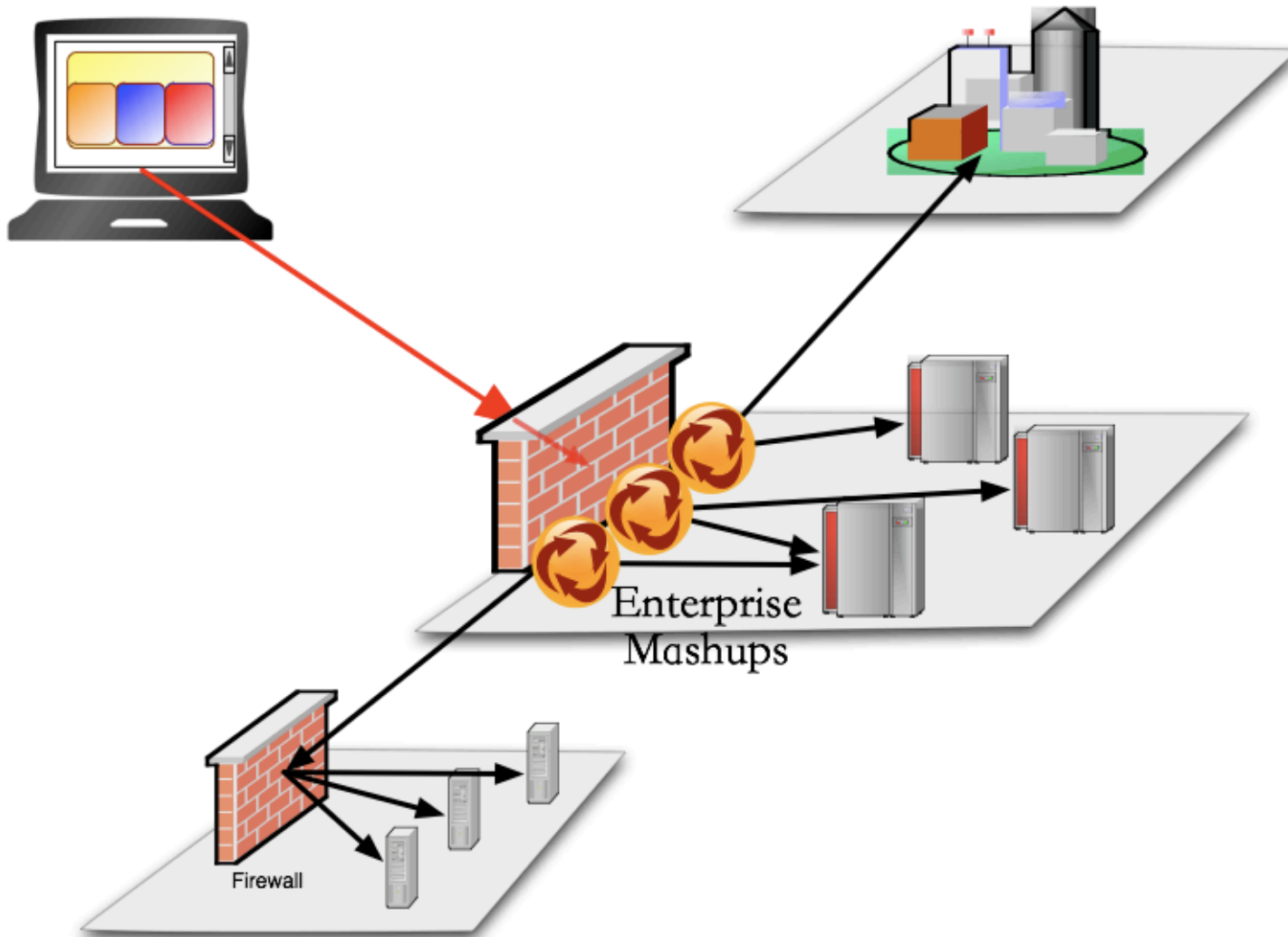
Design

GoF Patterns

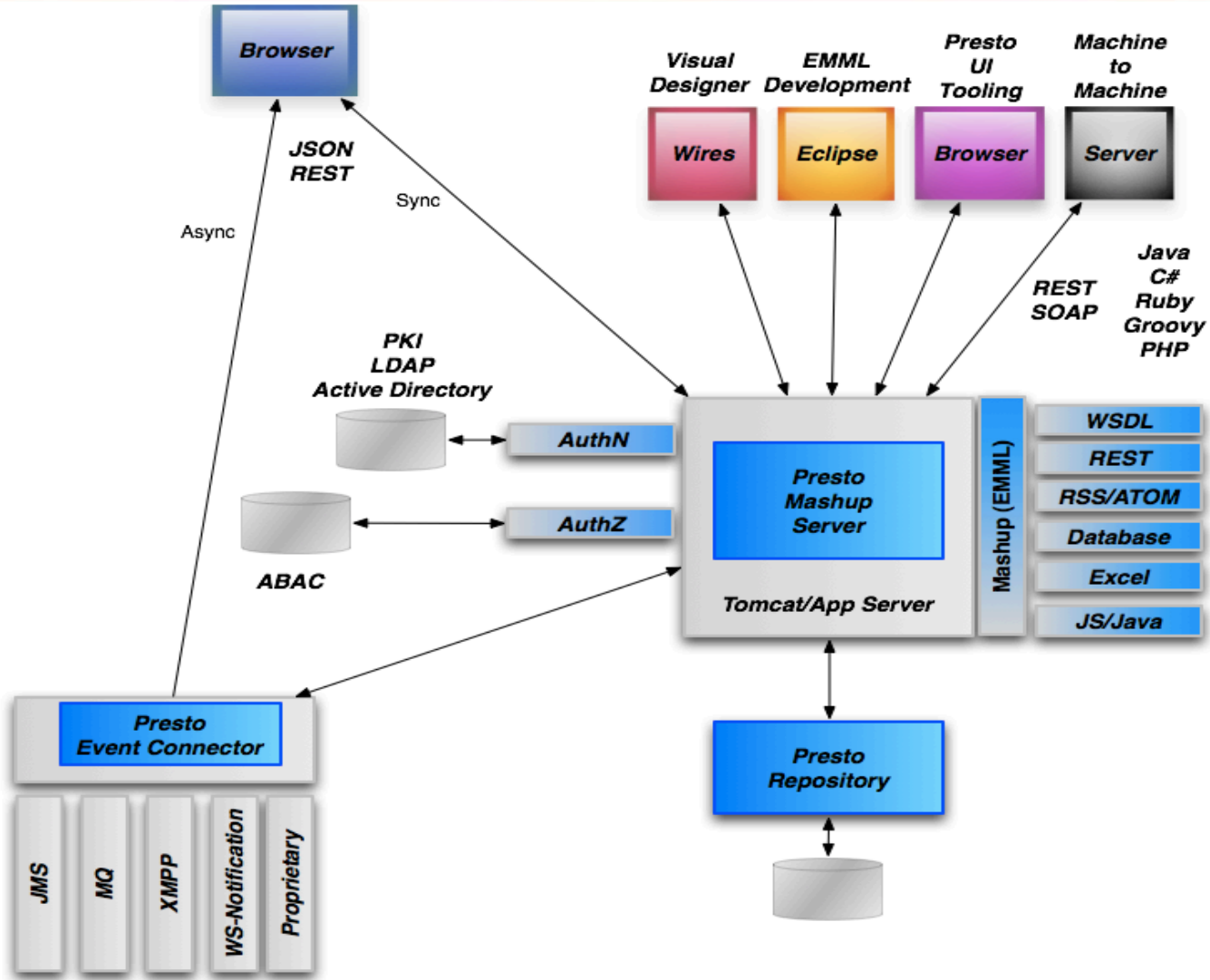
Enterprise Mashup Architecture



Physical View of Enterprise Mashup Architecture



Technical View of Enterprise Mashup Architecture



Mashup Patterns

A variety of “Mashup Patterns” can solve unaddressed problems, save time and resources, and provide unique opportunities to make money

Harvest :

- Alerter
- API Enabler
- Competitive Analysis
- Infinite Monkeys
- Leading Indicator
- Reality Mining
- Reputation Management
- Time Series

Manage :

- Content Migration
- Portal Enabler
- Quick Proof of Concept
- Single Sign-On
- Widget Enabler

Test :

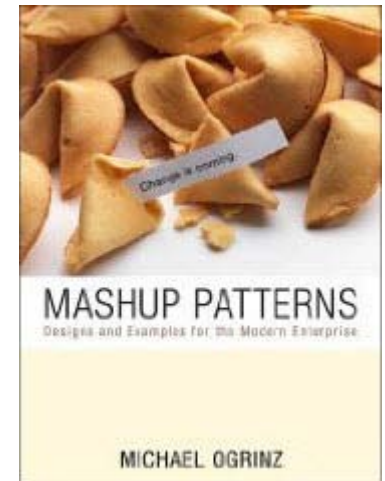
- Audit
- Load Testing
- Regression Testing

Enhance :

- Accessibility
- Feed Factory:
- Field Medic
- Folksonomy Enabler
- Fragility Reducer
- Smart Suggestions
- Super Search
- Translation
- Usability Enhancer
- Workflow

Assemble :

- Communication and Collaboration
- Content Aggregation
- Content Integration
- Distributed Drill-Down
- Emergency Response
- Filter
- Location Mapping
- Splinter





Mashup Patterns

Why Patterns?

“Patterns” support a simplified dialog for discussing common problems and their solutions .
They aren’t “code” – they are a generic template that can be used across many situations.

Why Mashup Patterns?

Mashups – specifically Enterprise Mashups – enable a broad class of solutions.
We need a common language for describing the potential of this technology, otherwise IT departments will continue to think of Mashups as “stuff on a map”

Mashup Pattern One : Distributed Drill-Down

CRM

CowCRM Helping milk your contacts for all they're worth!

CONTACTS Groups Companies Calendar Task List Email

COMPANY: **Machines Unite** ADDRESS: **50 Jessup Rd** E-MAIL: **r.robot@machinesunite.com**
CONTACT: **Robert Robot** CUSTOMER ID: **452**
SALUTATION: **Mr**
TITLE: **Portfolio Manager** CITY: **Westport** ID/STA:
DEPARTMENT: **Cash Equities** STATE: **CT** SPOUSE:
PHONE: **203-555-1234** POST CODE: **06880** BIRTH:
MOBILE: **203-913-0000** COUNTRY: **USA** REFER:
FAX: **203-293-0101** WEBSITE: **http://machinesunite.com** EDIT D:
CHB/D:

Main History Activities Opportunities Groups/Companies Secondary Documents Contact Info

Date	Time	Result	Regarding
2010-Jan-15	08:10:00 am	Trade Done	Release of New Guidelines
2010-Jan-13	12:24:15 pm	Trade Done	Customer Service Enquiry
2010-Jan-12	1:14:43 pm	In Progress	Inquiry About Transaction MABC 1234
2010-Jan-10	9:10:34 am	Trade Done	Trade Show
2010-Jan-10	11:54:15 am	Trade Done	Weekly Meeting
2010-Jan-9	3:24:02 pm	Trade Done	General Updates From Dept
2010-Jan-8	4:01:35 pm	Trade Done	Customer Followup
2010-Jan-7	10:30:23 am	Trade Done	Trade Show

Trading System

Invasion - Trading System

TRADING ACCOUNTS MAINTENANCE ALLOCATION REPORTING

Customer id: 452

Date	Customer Id	Side	Quantity	Symbol	Name	Price	Amount	Commission	Cu
09/29/2009	452	Buy	23,000	GOOGL	Google, Inc.	196.18	4,573,450.00	0.0	USD
08/24/2009	452	Buy	12,000	GS	Goldman Sachs Group Inc.	72.0	864,000.00	0.0	USD
09/11/2009	452	Buy	18,000	MSFT	Microsoft Corp.	25.0	450,000.00	0.0	USD
08/22/2009	452	Sell	14,000	IBM	International Business Machines Corp.	127.04	1,778,000.00	49.95	USD
09/05/2009	452	Buy	24,000	IBM	International Business Machines Corp.	127.04	3,048,960.00	49.95	USD
08/12/2009	452	Buy	29,000	IBM	International Business Machines Corp.	127.04	3,684,160.00	49.95	USD
08/24/2009	452	Buy	14,000	GS	Goldman Sachs Group Inc.	72.0	1,008,000.00	0.0	USD
10/06/2009	452	Sell	28,000	MSFT	Microsoft Corp.	25.0	628,000.00	49.95	USD
09/10/2009	452	Buy	18,000	GS	Goldman Sachs Group Inc.	72.0	1,296,000.00	0.0	USD
09/19/2009	452	Buy	17,000	MSFT	Microsoft Corp.	25.0	425,000.00	0.0	USD

Research Portal

Dig Trading WHEN THE MARKET HITS ROCK BOTTOM, ARE YOU PREPARED TO DIG?

HOME ABOUT EQUIP FYI CONTACTS RATES MACROECONOMICS TRADES & TOOLS

WELCOME TO THE **Dig Research Portal**

News & Macroeconomic

A Boost for the Green Revolution

The world's largest green producer, China's Shenghe Chemicals, on 10/06/2009, announced a voluntary 10% price reduction for its green urea, a move that will reduce the cost of its green urea production in the company, while it will also help to reduce the cost of its green urea production.

Control Status: **Fixed Income** **Equities** **Global Markets** **Global Macro**

- Money Markets
- Fixed Income
- Global Macro
- Equities
- Commodities
- Options
- Derivatives
- Research
- Analysis
- Tools

Latest Research Headlines

Apple Considered No iPhone Sales the Day, Only Modest Cuts to Our Cash EPS

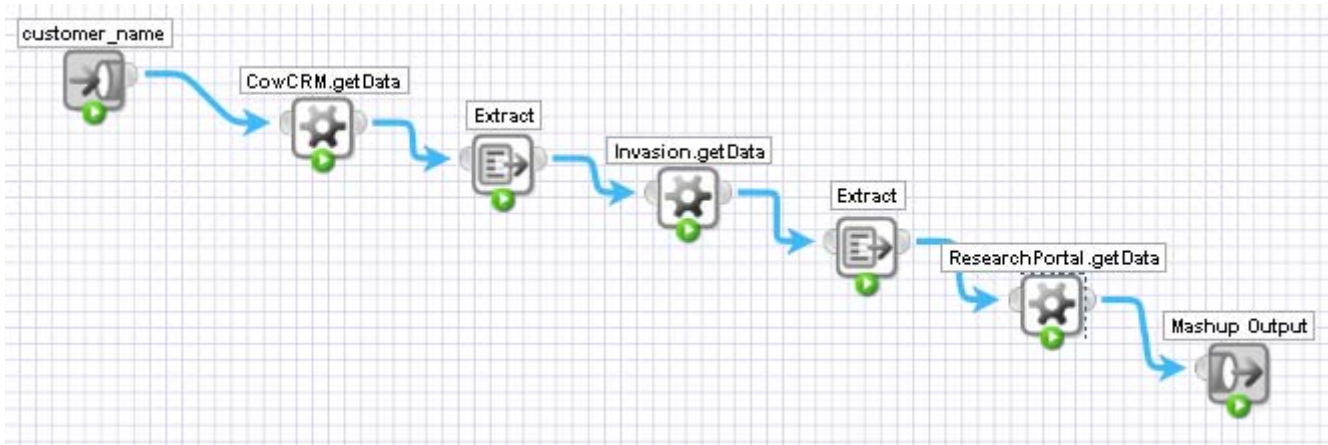
Apple Considered No iPhone Sales the Day, Only Modest Cuts to Our Cash EPS

Apple Considered No iPhone Sales the Day, Only Modest Cuts to Our Cash EPS

Symbol	Price	Change
SPY	1150.00	+0.04%
IBOV	1150.00	-0.62%
FTSE	1150.00	+0.16%
COMEX	1150.00	+0.10%

Provide Master/Detail functionality across multiple systems

Mashup Pattern Demonstration

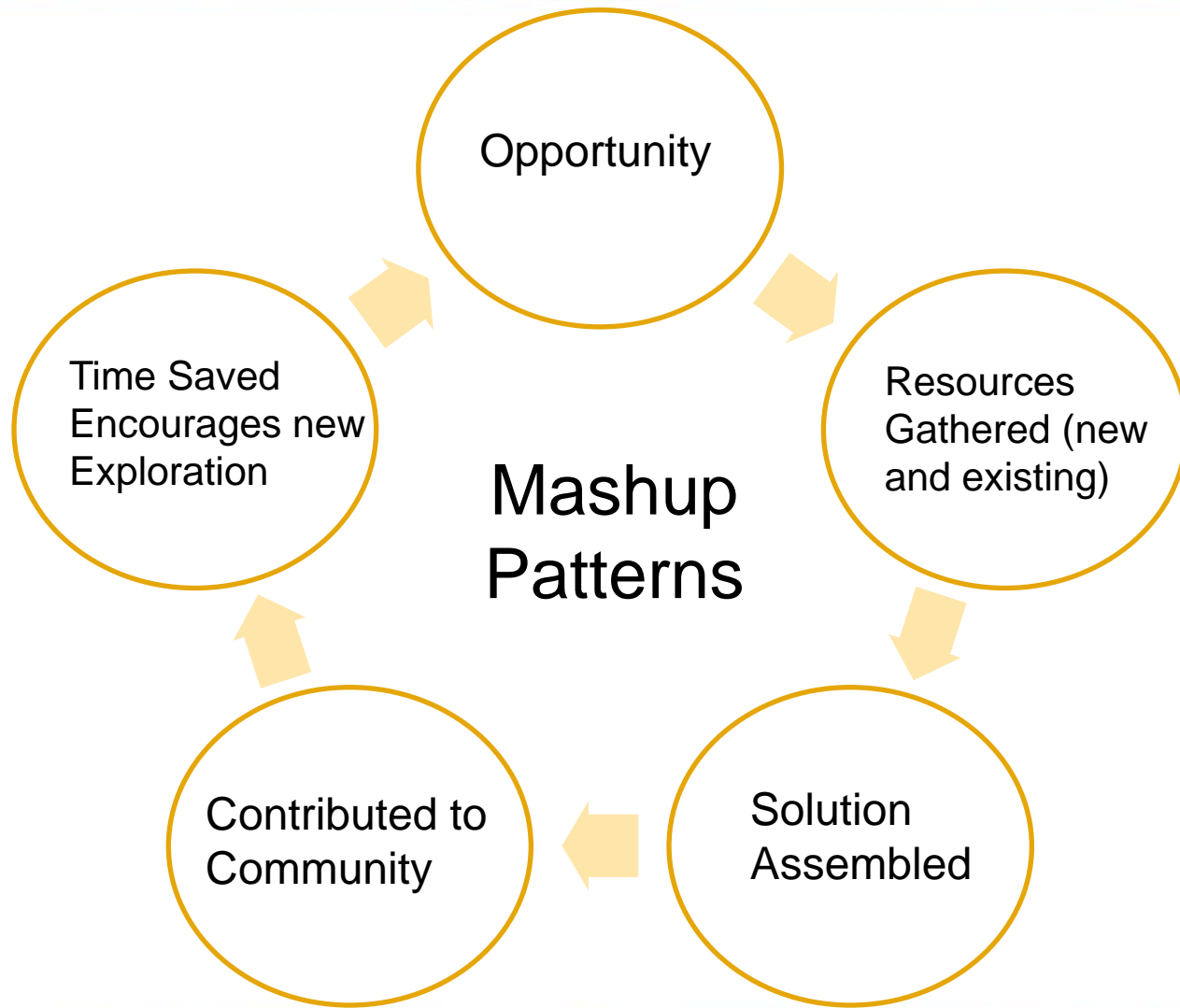


Web20

PUBLICATION	SYMBOL	AUTHOR	RATING	TITLE
09/19/2009	ORCL	Phil Light	C	Larry Ellison's Real Reasons behind the Sun Purchase
10/11/2009	ORCL	Phil Light	C	Why Oracle's Larry Ellison Calls Cloud Computing 'Nonsense'
10/30/2009	ORCL	Phil Light	C	Oracle To Acquire Assets of HyperRoll: What it Means to Enterprise IT
9/15/2009	GS	Chris Cryan	A	Golden Sacks at Goldman Sachs
10/13/2009	GS	Chris Cryan	A	How 'stressful' was the Stress Test for US banks?
10/20/2009	GS	Jack Chappalier	A	Most Dangerous Stocks on the Market : GS at almost \$200

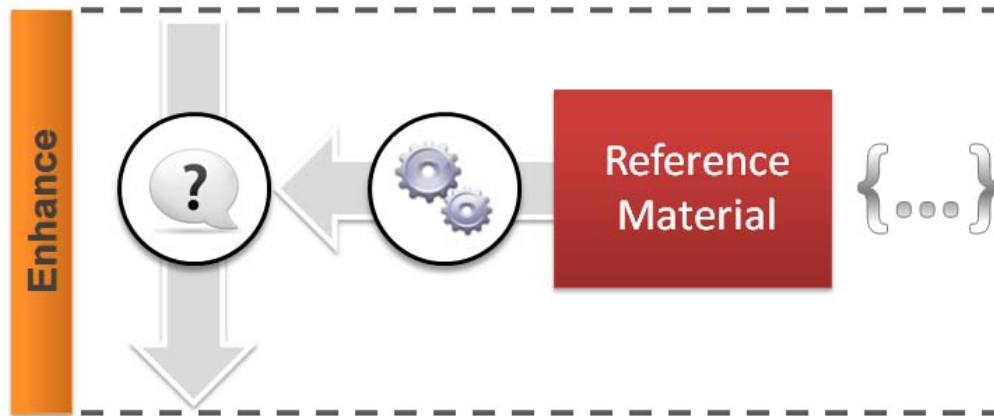
Page 1 of 1 | Displaying topics 1 - 6 of 6

The Virtuous Circle



Mashup Pattern Two : Smart Suggestions

Mashlets can be used to inform internal decisions, or as a service to customers



Pulling together resources from disparate locations can quickly yield enhanced knowledge

Mashup Pattern Example

The screenshot shows the ENERGY STAR website homepage. At the top, it features the ENERGY STAR logo and the slogan "CHANGE THE WORLD, TAKE THE ENERGY STAR PLEDGE." Below this, there are navigation links for "About ENERGY STAR", "News Room", and "FAQs". The main content area is divided into several sections: "PRODUCTS" (with sub-sections like Appliances, Heating & Cooling, Home Electronics, Lighting, Office Equipment, Store Locator, Rebate Finder), "BUILDINGS & PLANTS" (with sub-sections like Explore Buildings & Plants, Guidelines for Energy Management, Tools & Resources Library, Expert Help, Commercial Building Design, Green Buildings), and "NEW HOMES" (with sub-sections like Explore Qualified New Homes, Find an ENERGY STAR Builder, ENERGY STAR New Home Features, Benefits for Homeowners, For Residential Professionals). There is also a "HEADLINES" section with various news items and a "GO TO PARTNER RESOURCES" button. A search bar is located at the top right.

The screenshot shows the "Individual water footprint - The extended calculator" interface. It includes a navigation menu on the left with options like "Introduction", "Energy", "Transportation", "Food consumption", "Domestic water use", "Bathrooms", "Toilets", "Laundry", and "Shower". The main content area is titled "Individual water footprint - The extended calculator" and contains a "Food consumption" section with various input fields for different food categories: Cereal products (wheat, rice, maize, etc.), Meat products, Dairy products, Eggs, How do you prefer to take your food?, How is your veggie and seafood consumption?, Vegetables, Fruits, Starchy roots (potatoes, cassava), How many cups of coffee do you take per day?, How many cups of tea do you take per day?, Domestic water use, Bathrooms, How many showers do you take each day?, What is the average length of each shower?, Do your showers have standard or low flow showerheads?, How many baths do you have each week?, and How many times per day do you brush your teeth, shave or wash your hand?. Each category has a corresponding input field or radio button.

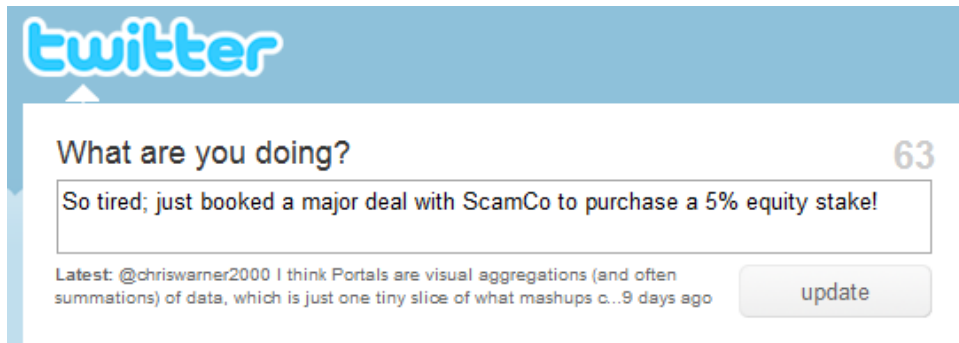
The screenshot shows the "Fountainhead Product Calculator" interface. It features a "Product Calculator" tab and a "Full Graph" tab. The main content area is titled "Based on your country of residence and the product you're interested in, you will have a unique water footprint. Please feel free to use the footprint calculator developed by the research team to assess your own water footprint." Below this, there is a "Calculator" section with input fields for: Product (Part 123), Country (United States), Sex (Male/Female), Dietary Habit (Vegetarian), and Yearly Consumed Income (\$20,000). A "Submit" button is located at the bottom right. On the right side, there is a "Global" section with a bar chart showing water footprint data for "Global", "Yours", "Industry", and "Domestic".

Product information + Usage Data yields a new recommendation solution

Mashup Pattern Three : Audit

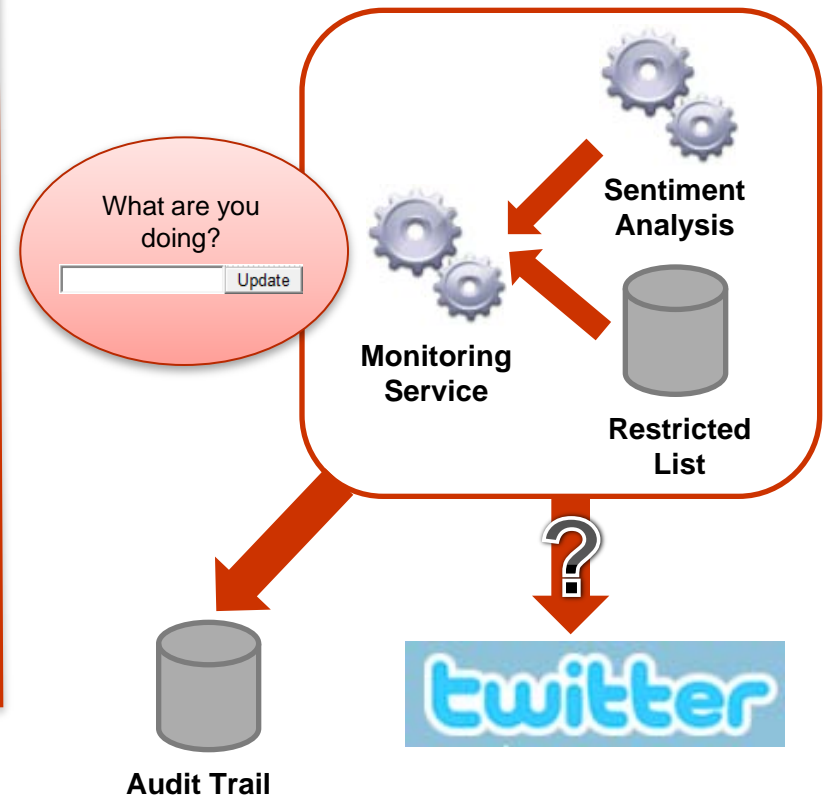
Add/enhance application security and tracking features

Before

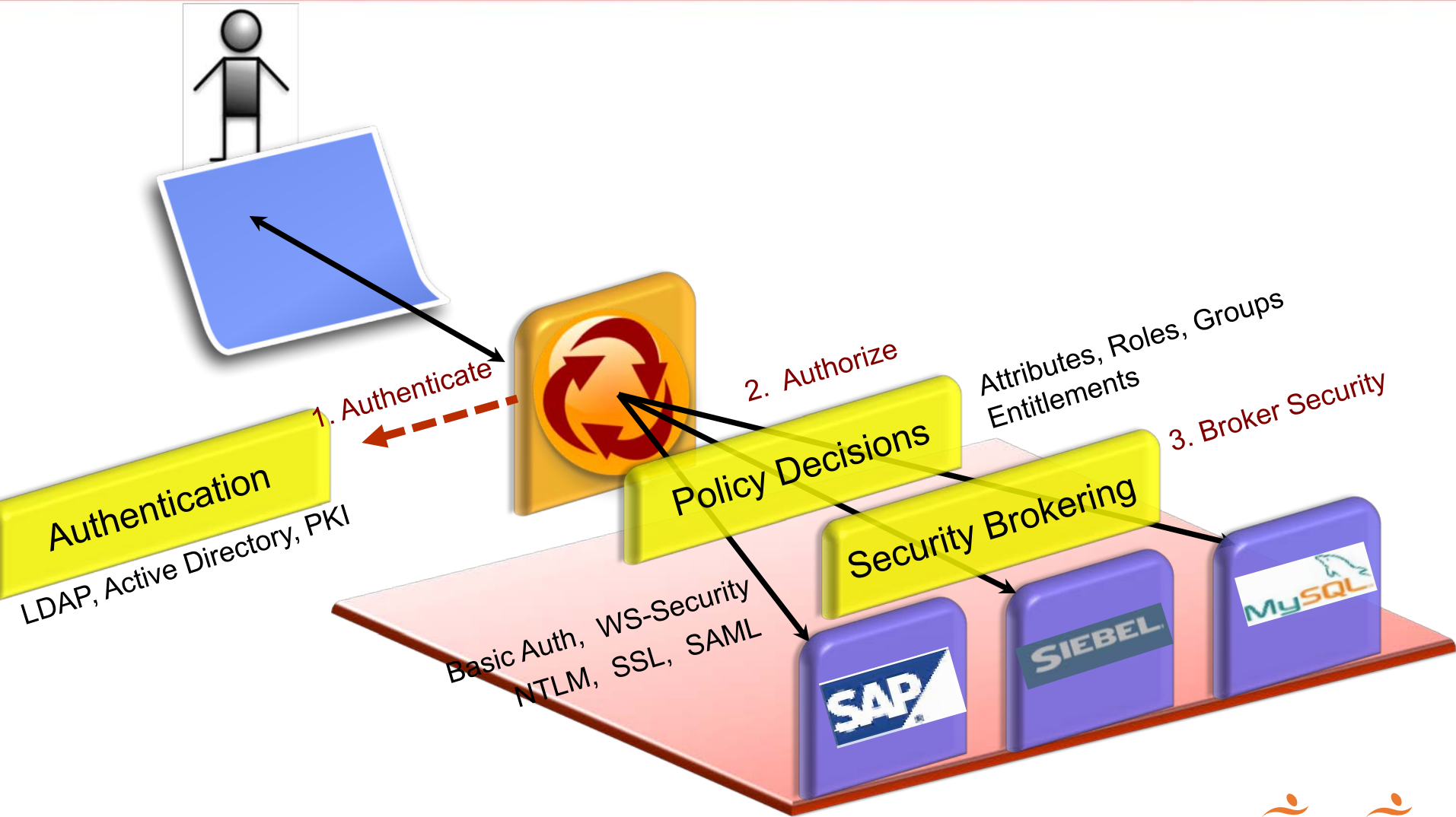


Even when you don't own the source!

After



Enterprise Mashup Security



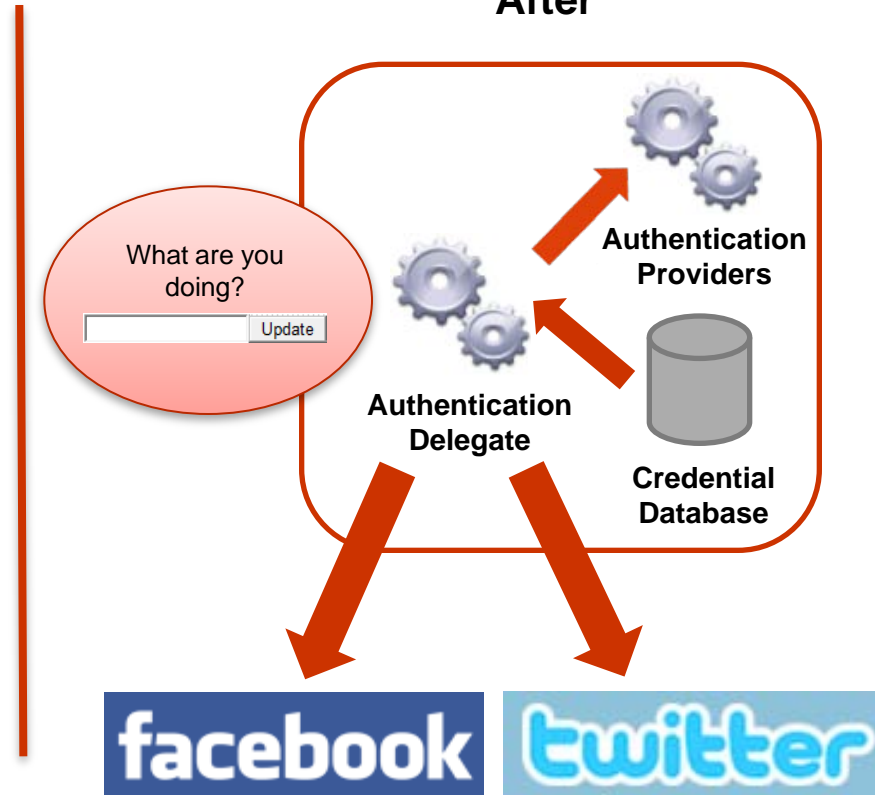
Security Pattern One: Authentication Delegate

One user login to authenticate to multiple sources

Before

The image shows two separate login forms. The top one is for Twitter, with fields for 'Username or email' and 'Password', and a 'Sign In' button. The bottom one is for Facebook, with fields for 'Email' and 'Password', and a 'Login' button. This illustrates the 'Before' state where users must log in separately to each service.

After

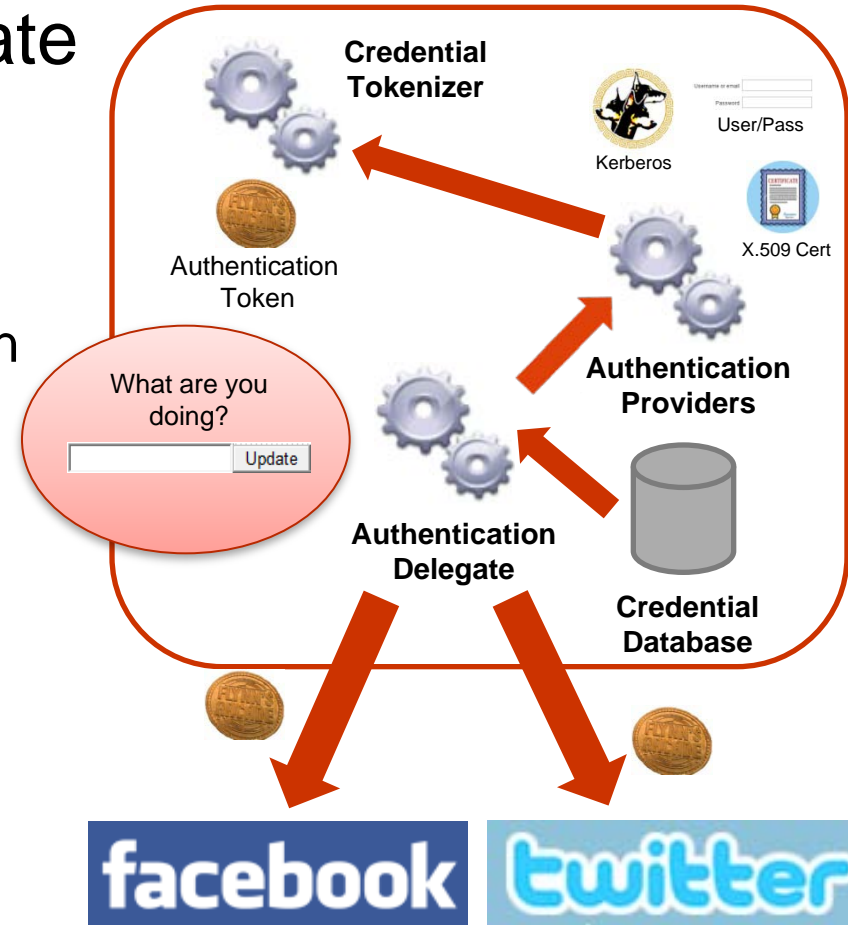
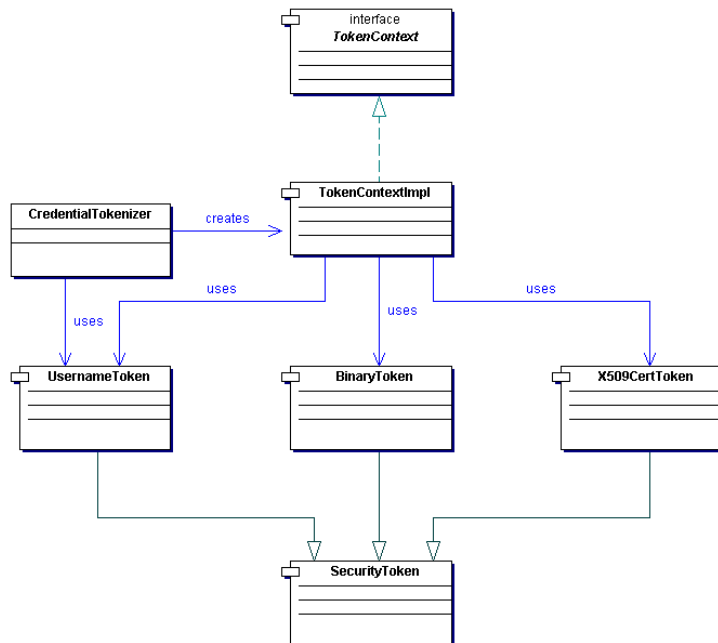


Even when you don't own the sources and the passwords are different!

Security Pattern Two: Credential Tokenizer

- A Flexible way to encapsulate credentials for use across different sources

Related to: Mashup Pattern – Single Signon



Security Pattern Three: Authorization Delegate

Before

Authorization errors from source were returned to user

403 - Access Forbidden

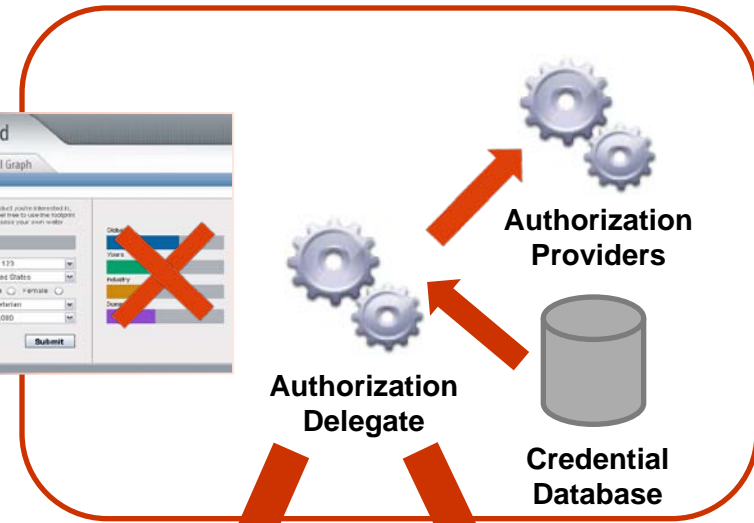
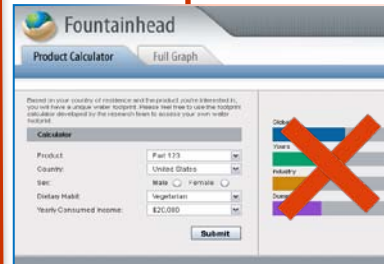
 **You do not have permission to access this resource.**

Do you need help?

-  Try Again: [Login to AKO](#)
-  For More Help: [Contact the AKO Help Desk](#)

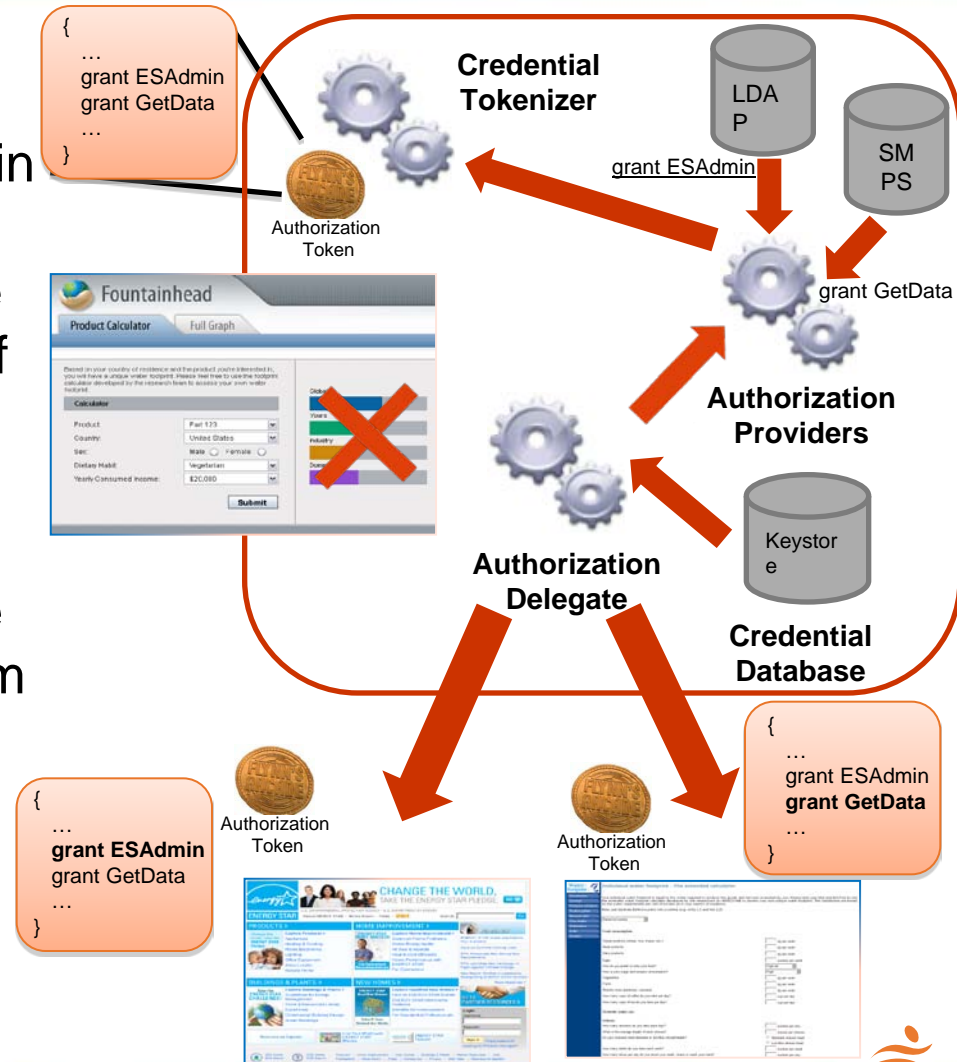
Authorization Delegate determines what sources can be invoked and what data will be returned

After



Security Pattern Four: Attribute Authorization Delegate

- Attribute Based Access Control
- Credential attributes are stored within the authorization credential of a user
- Attributes contain information on the identity and authorization capability of the user
- Mashup server may maintain own authorization credential database
- Authorization providers may retrieve authorization credential attributes from source databases





Security Patterns Demonstration

**If you are seeing this text,
IT WORKS!**

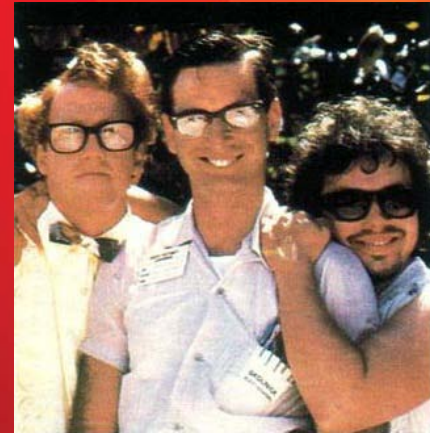
To Learn More About Enterprise Mashups



<http://www.jackbe.com/dev/>



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