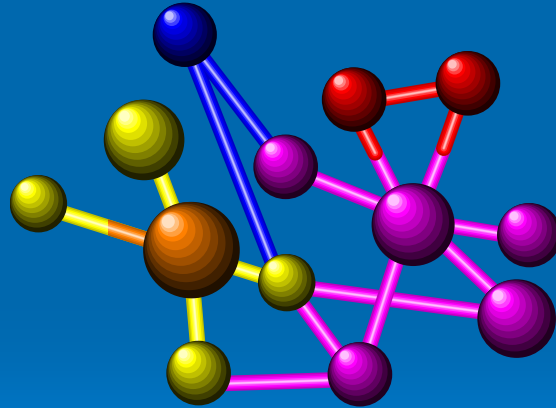


SOA CoP Demo



SOA Conference - May 23rd 2006
Cory Casanave, Data Access Technologies

SOA Demo

- The SOA Community of Practice is sponsoring a demonstration of the business value and technical feasibility of SOA. This demonstration will encompass the full life-cycle of a multi-party SOA solution using multiple participants and multiple technologies collaborating via SOA standards in an architected community.
- Goals;
 - To provide a concrete example of how the SOA approach provides business value to a community
 - To provide confidence that the approach and technologies are real – secure, reliable, performing and practical.
 - To validate that independently developed applications can interoperate using SOA standards

Approach

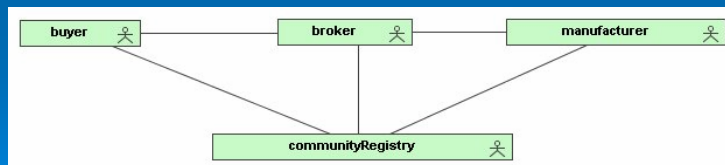
- Defines communities that will interact over a set of services and enact common scenarios
- Define an architecture for these communities with a set of technical specifications to support their interaction
- Participants implement these services, in accordance with the community architecture, and then participate in the community – participants will get substantial visibility to government and commercial markets

Status

- Emergency response is an existing demo, specification for other participants needs to be developed
- Broker demo has an initial specification, participants are refining it. It includes both a business architecture (MDA CIM) and generated WS-* & BPEL technology specifications
- After specs are nailed down, we will implement prototype service components
- It is expected that multiple participants will use their own products and approaches – use demo scenario as a common basis to show your stuff!
- This is an invitation to participate!

Supply Chain Community

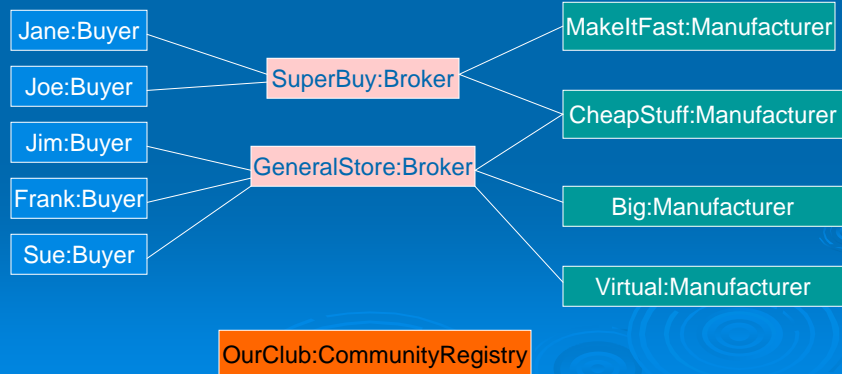
- Simple, classic supply chain – should be easy to understand and to implement
- Buyer/Broker/Manufacturer with a community registry



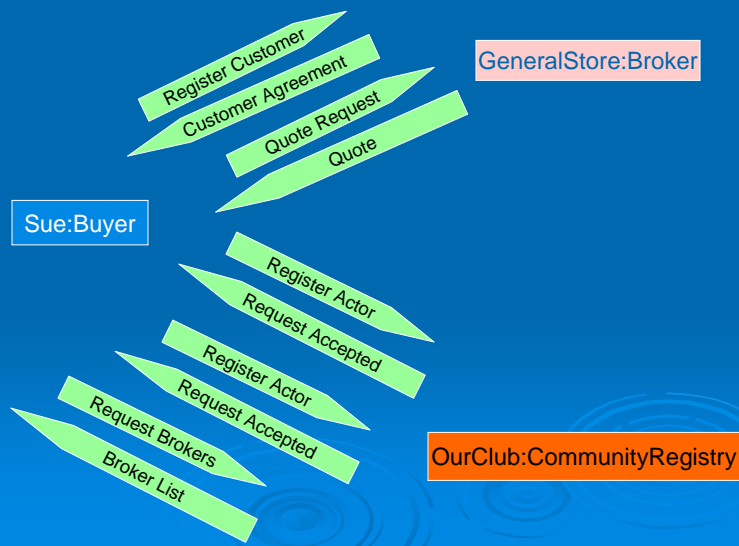
Broker Community Scenarios

- **Registration of a new actor in the community**
 - A simple registration service at a well known community portal
- **Manufacturer listing products with broker**
 - Manufacturer discovers a broker and negotiates a listing deal and asserts a product list, cost and capacity.
- **Buyer requesting quote from broker**
 - Buyer requests a quote from a broker based on product, cost, schedule and quantity.
- **Purchase (Buyer to broker to chosen manufacturer)**
 - Buyer places an order with a broker that is then distributed to manufacturers based on quantity, price and delivery schedule. For simplicity, an order will be for one product.
- **Registration and use of a taxonomy of products in the community registry**
 - So that all buyers, sellers and brokers can talk about the same merchandise, a standard taxonomy is used.

Example Community

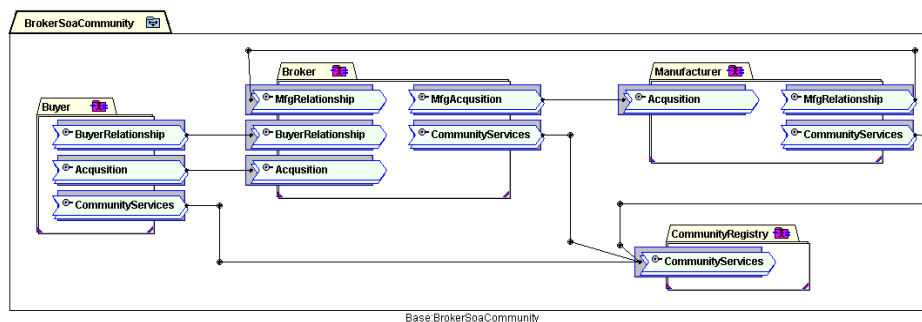


Example Scenario

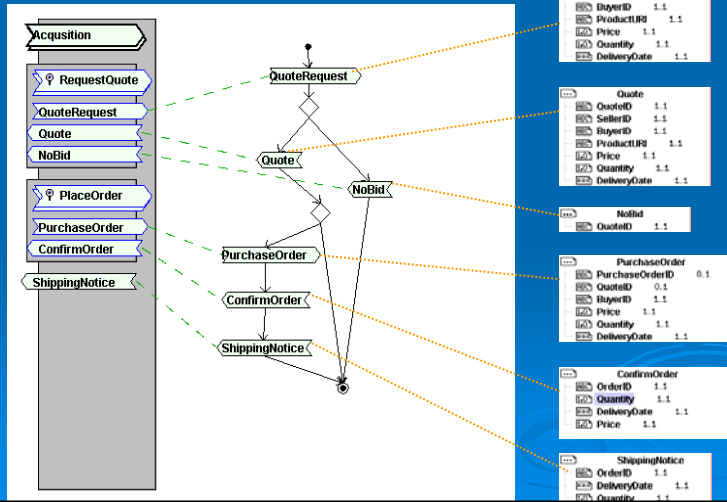


Architecture of the Broker Community

Services Produced and Consumed



Example Service Interactions



Example Web Service Spec

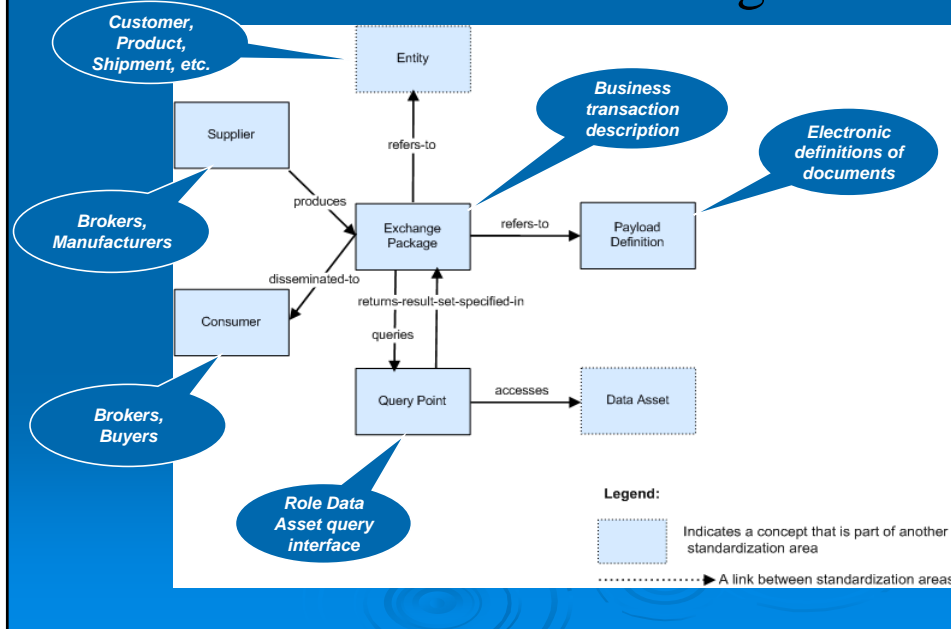
BPEL
WSDL
Schema

```
<?xml version="1.0" encoding="US-ASCII"?>
<wSDL:definitions xmlns:wSDL="http://schemas.xmlsoap.org/wsdl/" xmlns:schema="http://osera.gov/xslt/functions/schema" xmlns:
xmlns:bpel="http://schemas.xmlsoap.org/ws/2003/03/business-process/" xmlns="http://schemas.xmlsoap.org/wsdl/" xmlns:x
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:tns="http://gov.osera.bpel" xmlns:wsa="http://schemas.xmlsoap.org
xmlns:Messages="http://osera.org/bpel/Messages" xsi:schemaLocation="http://schemas.xmlsoap.org/wsdl/
http://schemas.xmlsoap.org/ws
<?xml version="1.0" encoding="US-ASCII"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:SOAP-ENC="http://s
xmlns:xs2001="http://www.w3.org/2001/XMLSchema" xmlns="http://www.w3.org/2001/XML
targetNamespace="http://osera.org/bpel/DataElements" elementFormDefault="qualified"><x
<xsd:appinfo>
<uuid>platform:/resource/SoaModel/model/SoaDemo.edoc_1_0_b#100c776_10a6acc3e
</xsd:appinfo>
</xsd:annotation>
<xsd:element type="DataElements:ActorURIType" name="ActorURI">
<xsd:appinfo>
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</xsd:appinfo>
</xsd:annotation>
</xsd:element>
```

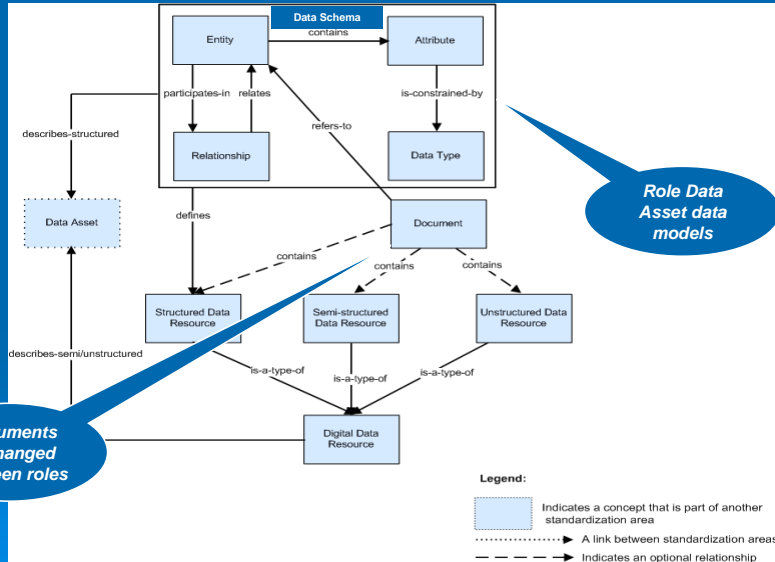
Utilizing the Data Reference Model

Joseph Chiusano, Booz Allen Hamilton

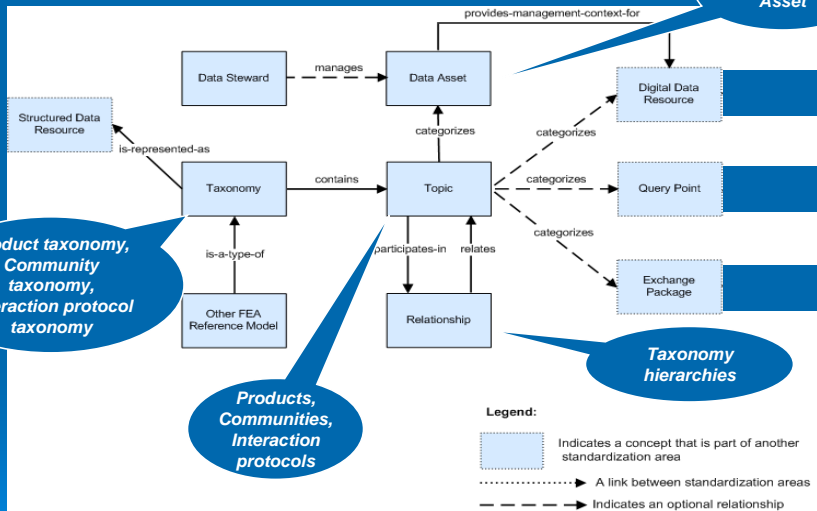
DRM 2.0: Data Sharing



DRM 2.0: Data Description



DRM 2.0: Data Context



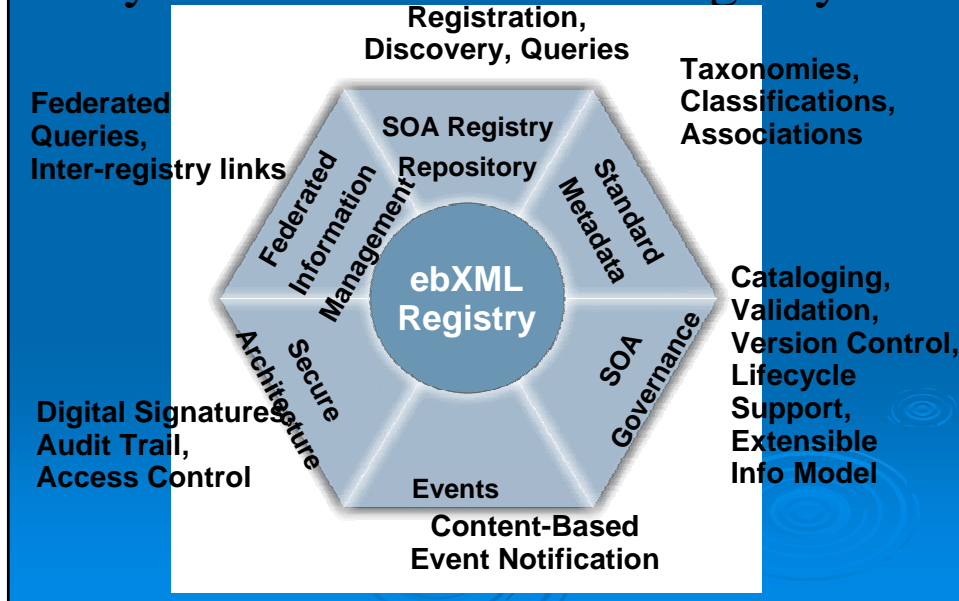
SOA and Registries

Farrukh Najmi, Sun Microsystems

Role of the Registry in SOA

- Enables secure, federated information management for all types of electronic content annotated with rich metadata
 - XML, Schema, WSDL, BPEL, Policy...
- System of record for SOA deployments
 - Publish, management, governance, discovery and reuse of SOA Artifacts
- Provides for a community “meeting place”, as in the demo scenario “Community Registry”
 - Allows buyers, brokers and manufactures to find and identify each other
 - Provides for a registry of commodity products in this community
- Registry/repository being used for the demo is the "freebXML Registry" a royalty-free open source implementation of the ebXML Registry standard (ISO 15000, part 3-4)
- More info: <<http://ebxmlrr.sourceforge.net/wiki/Overview>>

Key Features of ebXML Registry



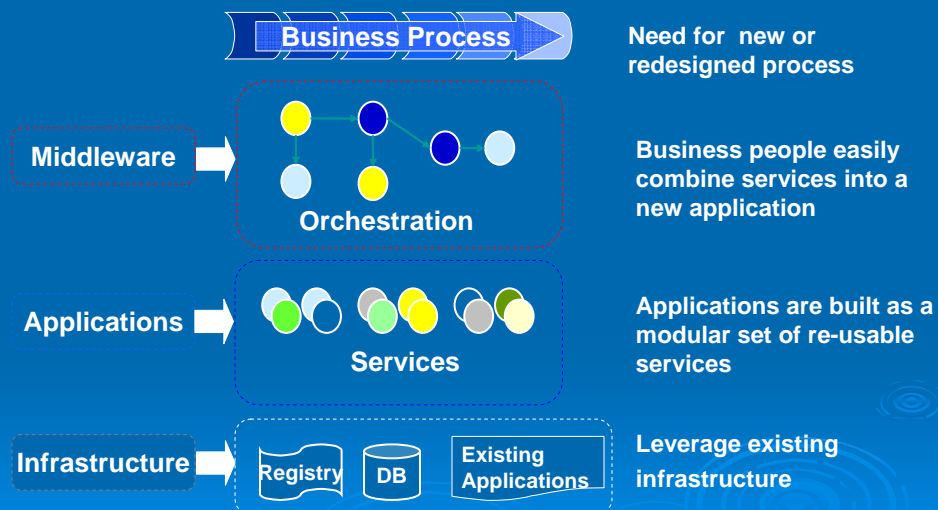
Uses of ebXML Registry

- SOA Repository (Sun Microsystems)
- Business Vocabulary Management (BVM) (United Nations / CEFACT)
- Business process catalog (United Nations / CEFACT)
- Electronic forms (Adobe)
- Domain-specific use cases:
 - Electronic medical records (eclipse foundation open healthcare framework / HIMSS IHE / IBM)
 - Geological information systems (Open GIS)
 - Managing debt statistics for the IMF and World Bank (sdmx.org)

BPEL & SOA

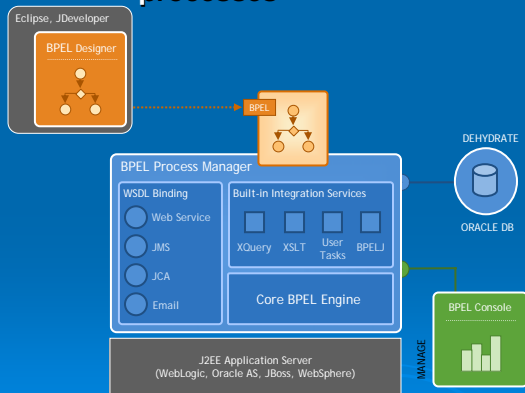
Eric Reed, Oracle

BPEL and Composite Applications



BPEL Process Manager Architecture

Enterprise-strength infrastructure for designing, Deploying, and managing BPEL business processes



- Comprehensive and native BPEL implementation
- Easy-to-use modeling tool
- Scalable and reliable engine
- Flexible binding framework
- Rich management and monitoring
- Support for Oracle AS, WebLogic and WebSphere
- Get up and running in less than 15 minutes!

Manage Services Web Services Management



Oracle Web Services Manager



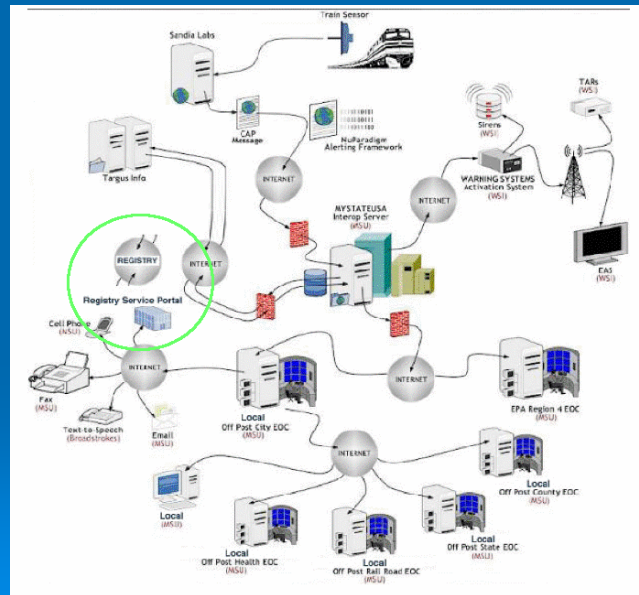
Emergency First Response Scenario

Rex Brooks, Starbourne
Communications Design

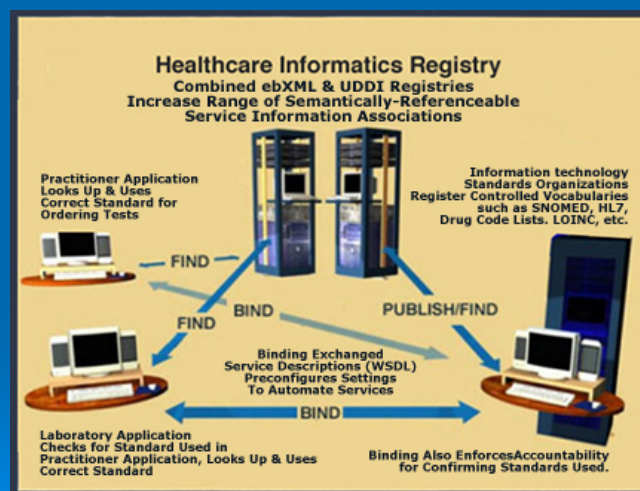
Emergency First Response Demo

- Based on Actual Train Derailment, Chlorine Tank-car Rupture Incident from Jan. 2005.
- Connects Emerging Sensor Network to Nation wide Emergency Alerting Framework using Common Alerting Protocol (CAP) and Emergency Data Exchange Language (EDXL).
- Shows Several Alerting Services Connected in Nationwide Network—Sirens, Radios, Reverse-911, Geocoded Telephone Warning Application Systems, etc.
- Uses Web Services Registries to Allow Services to be Connected & Aggregated.

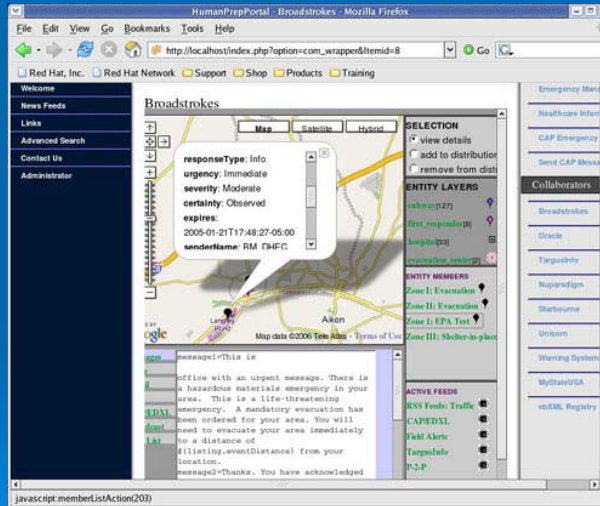
Registry Augments Emergency Alerting



Registry Augments Health Informatics Support Services



Portal Aggregates Geospatial Location Services



Current Commercial Participants

- [Cory Casanave, Data Access Technologies](#)
 - Demonstration of Business Architecture through Technical Architecture using [Model Driven Architecture](#)
- [Farrukh Najmi, Sun Microsystems](#)
 - Registry implementation for Community
- [Joseph Chiusano, Booz Allen Hamilton](#)
 - DRM Mapping and integrations
- [Chuck Mosure, Metamatrix](#)
 - Implementation of services connected to back-end Data
- [Rex Brooks, Starbourne Communications Design](#)
 - Emergency Response Scenario
- [Eric Reed, Oracle](#)
 - BPEL Process design and execution

More Information

➤ SOA Community Wiki

- Demo: <http://tinyurl.com/qcvkd>
- Contact: cory-c (at) enterprisecomponent.com