

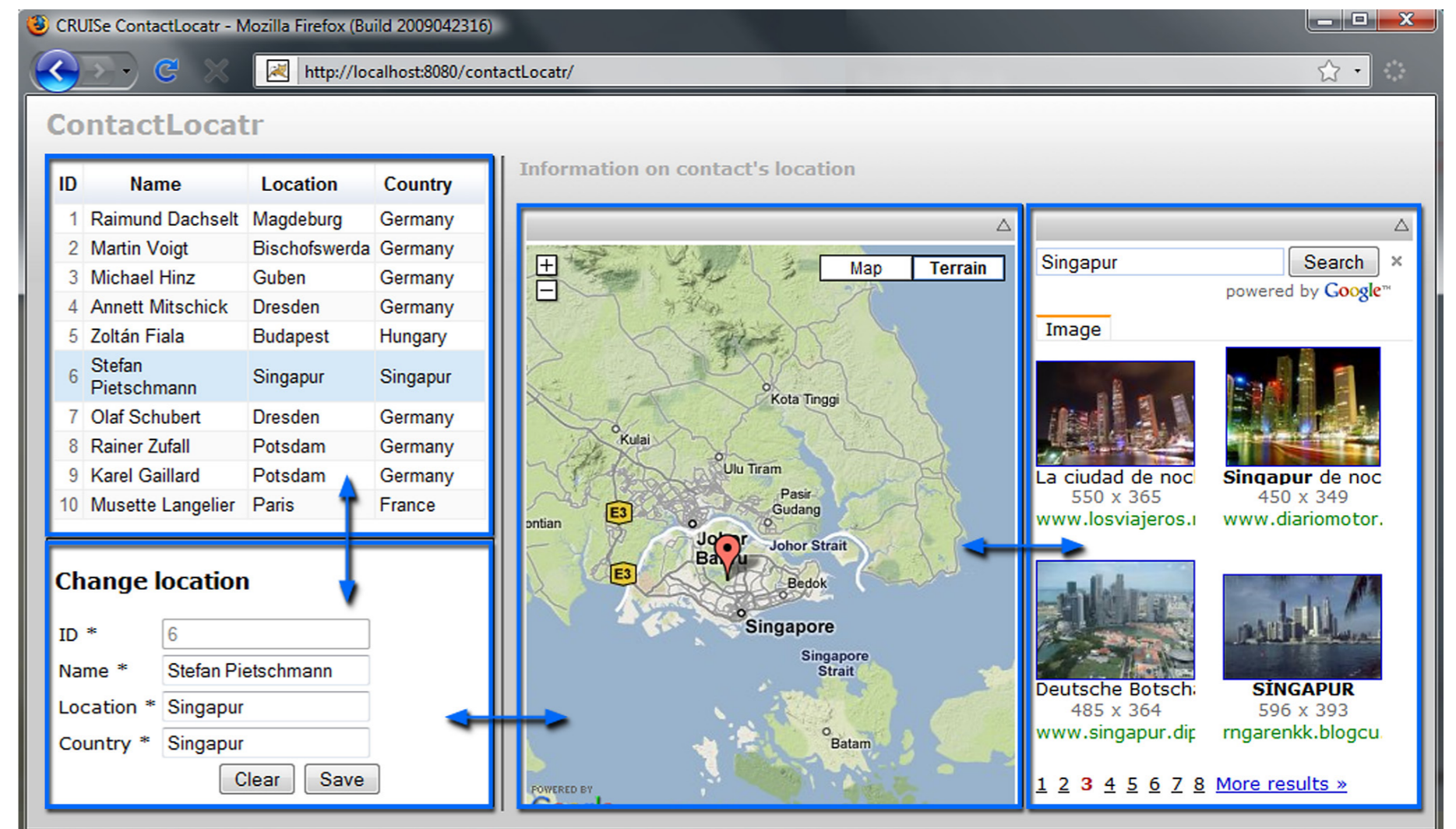
CRUISe: Composition of Rich User Interface Services

MOTIVATION

- Web as application platform: *Programmable Web*
- Back end: reusable, distributed (web) services
- Front end: costly development and maintenance
 - » heterogeneous technologies and frameworks
 - » heterogeneous user, usage, device contexts

VISION

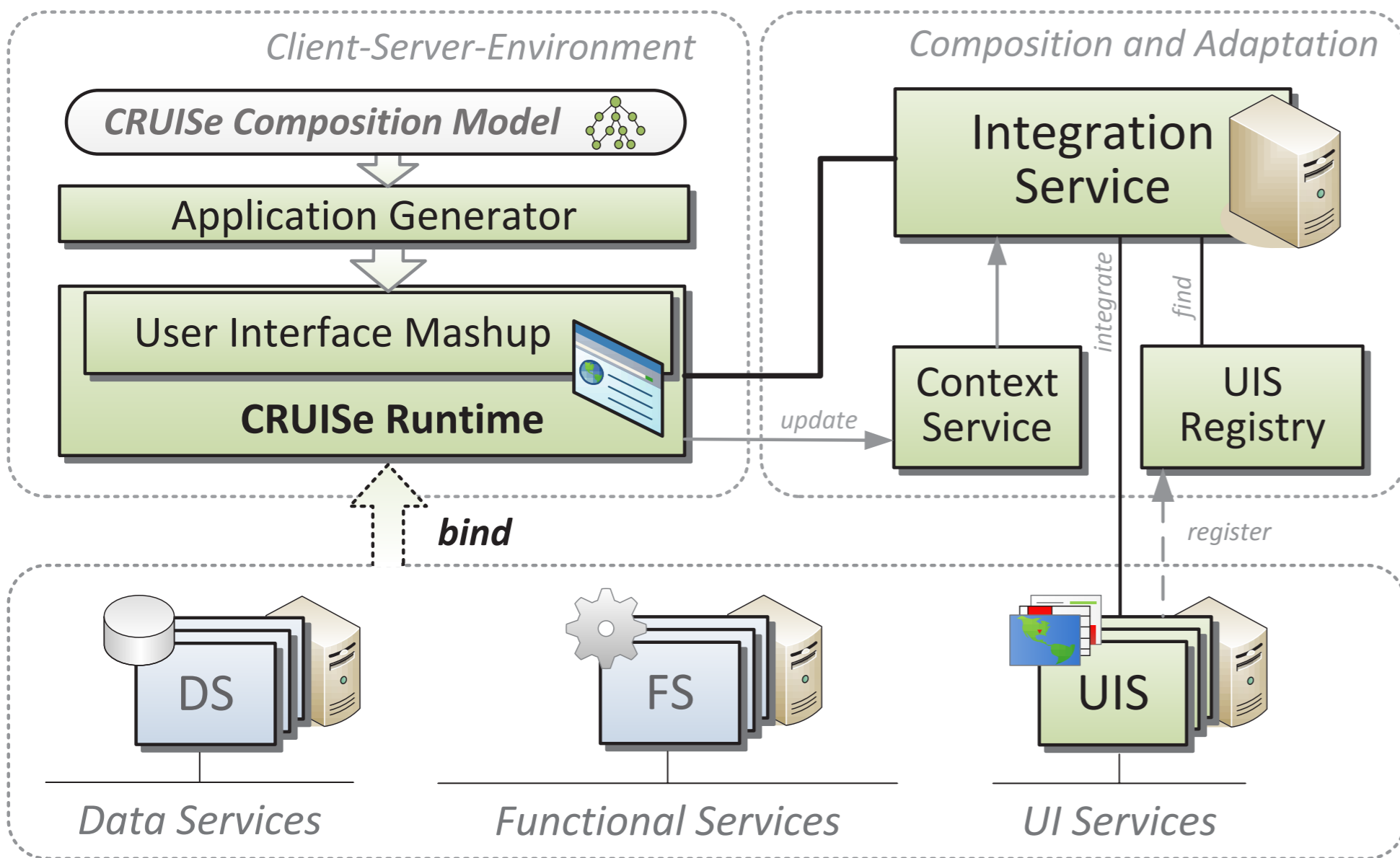
- Application of the SOA paradigm to the presentation layer of web and esp. mashup applications
- Platform-independent modeling of mashup user interfaces from distributed UI services
- Dynamic, context-aware UI composition from reusable, generic user interface components



CRUISe-based mashup UI

CONTEXT-AWARE UI COMPOSITION

- Context-aware integration of distributed UI components into the skeleton at run time
- Control of UI integration and event flow by a platform-dependent *CRUISe Runtime*, e.g., for
 - » Thin Server Architecture (TSA)
 - » Eclipse Rich Ajax Platform (RAP)
 - » Human Tasks (BPEL4People, WS-HumanTask)
- Dynamic invocation of the *Integration Service*
 - » Context resolving (external *Context Service*)
 - » Discovery of compatible UIS (*UIS Registry*)
 - » Selection of most suitable UIS (*Ranking Strategy*)
 - » Platform-specific wrapping of the generic UIC
- Dynamic integration of the UI component
 - » Unique namespacing, class loading and initialization of the UIC via its interface
 - » Transparent loading of additional UIC resources
- Dynamic adaptation of the UI mashup
 - » Adaptive layout, UIC reconfiguration and exchange



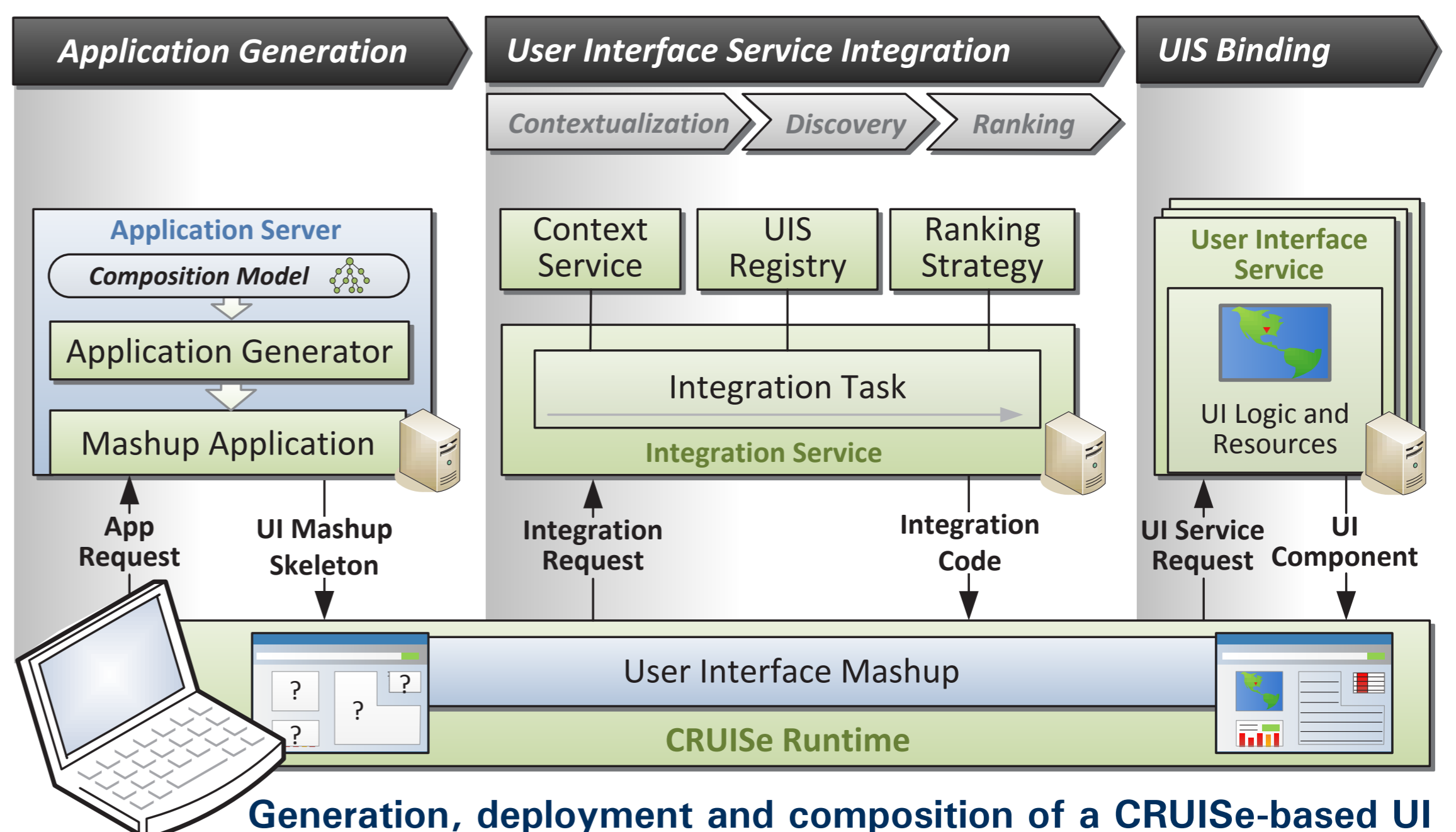
Conceptual overview of the CRUISe system

UI SERVICES

- *User Interface Services (UIS)* provide UI components and resources, like images, styles, libraries
- *User Interface Components (UIC)* are client-side, reusable and configurable web UI parts with a generic JavaScript interface
- Classification and description by UISDL
- Registry manages UISDL instances

UI MODELING

- Platform-independent *CRUISe Composition Model* of the mashup UI defines
 - » Layout and UIC configuration
 - » Data and control flow
 - » Adaptive behavior
- Model transformation to a platform-specific *UI Mashup Skeleton*



Generation, deployment and composition of a CRUISe-based UI