Rich Internet Applications and Flex

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Rich Internet Applications
Aspects of a RIA include

- Every user interaction does not require request/web server response
- Data can be obtained from server without redrawing entire page
- Data, text, and audio/video are seamlessly integrated in the UI

Best aspects of the web are inherited in a RIA

- Ease of deployment
- Ease of management
- Ease of development
What is a great digital experience?

You know it when you see it …
What is a great digital experience? Continued …

- Broadmoor Hotel (travel)
  - 84% increase in online reservations
- TJ Maxx (retail)
  - 50% higher rate of successful check out
- Optimal Payments (customer service)
  - 120% improvements response time to customer issues
- Dai Nippon (business to business)
  - 25% reduction in errant orders

You know it when you measure it …
Why Flash?

- Cross platform, cross browser, cross device
- Flash is ubiquitous and gets adopted faster than any other software in the world
- Most widely distributed video player on the web
- Binary sockets, integration with multimedia and tons of other features
- Active open source community (osflash.org)
- Integrates with HTML and AJAX
- Integrates with open data standards like REST, SOAP web services

Flash + HTML with the Ajax approach to build Web 2.0 applications
Why Flex?

- Easy to learn and maintain the code
  - Standards based Object Oriented programming model (ECMA/XML)
  - Flex Builder will be based on Eclipse open source framework
- Comprehensive set of features and an easy to extend framework.
- Ease of integration with legacy data sources
  - Plain old Java Objects, JMS, data synchronization
- Unparalleled and engaging experience
- Free Software Development Kit and Free limited edition of Flex Enterprise Services
- A very active Flex community ([flexcoders.org](http://flexcoders.org))
The Flex Model

HTTP Request
The Flex Model
The Flex Model

Data (HTTP, AMF, RTMP, TCP/IP)
Technical Deep Dive

Flex Services

RPC Services
Data Services
Mesg Services

Programming Model

Flex Framework
(Application GUI Library)

Flash 8.5
Optimized for Applications

FlexBuilder
(Developers)
Programming Model

- **MXML**: XML based language for defining rich front-ends
  - Lay out of the application
  - Define non-visual aspects like data binding
  - More readable, maintainable and toolable

- **ActionScript 3.0**
  - ECMAScript-based language for scripting front-end logic (ECMA 262)
  - Classes, Packages, Interfaces similar to Java
  - Dynamic typing for ‘script feel’, strong static typing for larger projects.
  - ActionScript classes imported or instantiated in MXML
Flex Framework

- Action Script Class library
  - Containers, controls, data modeling, data communication services, behaviors
- Included in SWF, not built into the Flash Player
Flash Player

- High performance client runtime
- Action script Virtual Machine rebuilt from the ground up
  - Maximize speed
  - Minimize memory consumption
  - Core API targeting consistency and completeness
- backward compatible
- ECMAScript for XML
Flex Builder

- Component based IDE for delivering rich Internet applications using the Macromedia Flex Framework
  - Eclipse based tools for coding and debugging
  - Visual tools for layout, styling, and interaction design
  - Deep integration with Flex Framework and Enterprise Services
- Debugging
  - Interactive step through debugger
  - Call stack, variables, expression windows
Flex Enterprise Services

RPC Services
- Web Service
- Remote Object
- HTTPService

Data Services
- Data Sync
- Data Push
- Paging

Message Service
Call for action …

- Download the beta builds from Adobe Labs (labs.adobe.com) and have fun building interactive web 2.0 applications.
- You can share your code with everyone in the community through “View Source”
- Spread the word:
  - Flex 2.0 SDK which includes the command line compiler and application GUI libraries will be free.
  - The Bangalore group is hiring smart developers and Quality Assurance engineers.