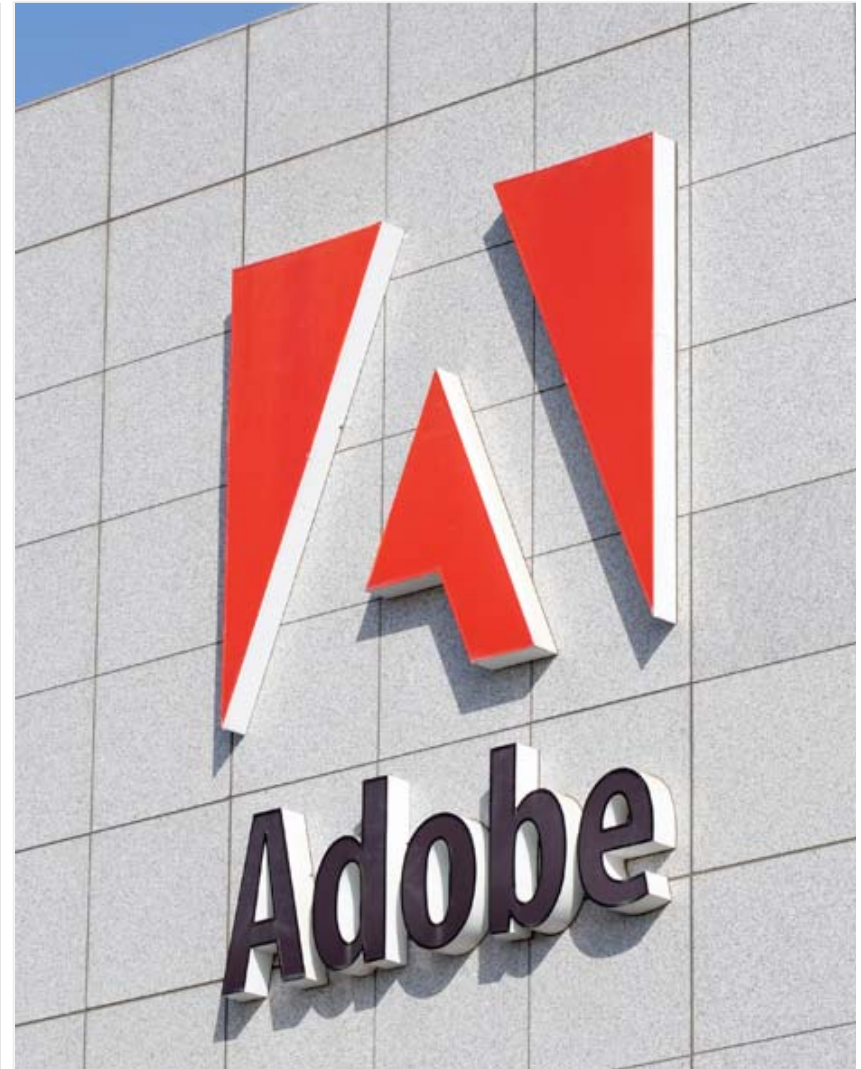


Eliminate waste in Java development with Adobe Flex

Espen Dalløyken - Ezmo
Børre Wessel - Adobe

13.09.2007



Who are we

- **Espen Dalløkken**
 - Chief Technical Officer at Ezmo
 - Based in Oslo, Norway
- **Background**
 - J2EE & .Net Enterprise Software Development
 - User Interface Developer
 - Agile and Lean Software Development

- **Børre Wessel**
 - Senior Consultant at Adobe Consulting
 - Rich Internet Applications, EMEA
 - Based in Edinburgh, Scotland
- **Background**
 - J2EE Enterprise Software Development
 - Agile Software Development
 - Rich Internet Applications

 - UI development since 2000

What is waste?

“all elements of production that only increase cost without adding value”

Taiichi Ohno: Inventor of the Toyota Production System

Waste in Java development

- Glue code between business and presentation tiers
- Endless configuration of frameworks and components
- Handovers between interface- and backend developers
- Frameworks built without focus on User Experience

What is Adobe Flex

- Cross platform development framework for creating Rich Internet Applications, RIAs
 - Component based
 - ActionScript 3
 - Object Oriented
 - Strongly typed
 - ECMA script
 - MXML
 - SOA client
 - Flex Builder IDE (Eclipse based)
 - Visual layout
 - Code hinting
 - Debugging
 - Seamless integration with other development and design tools
 - CS3 integration with Flash, Illustrator, Fireworks
- Flex SDK - Open Source

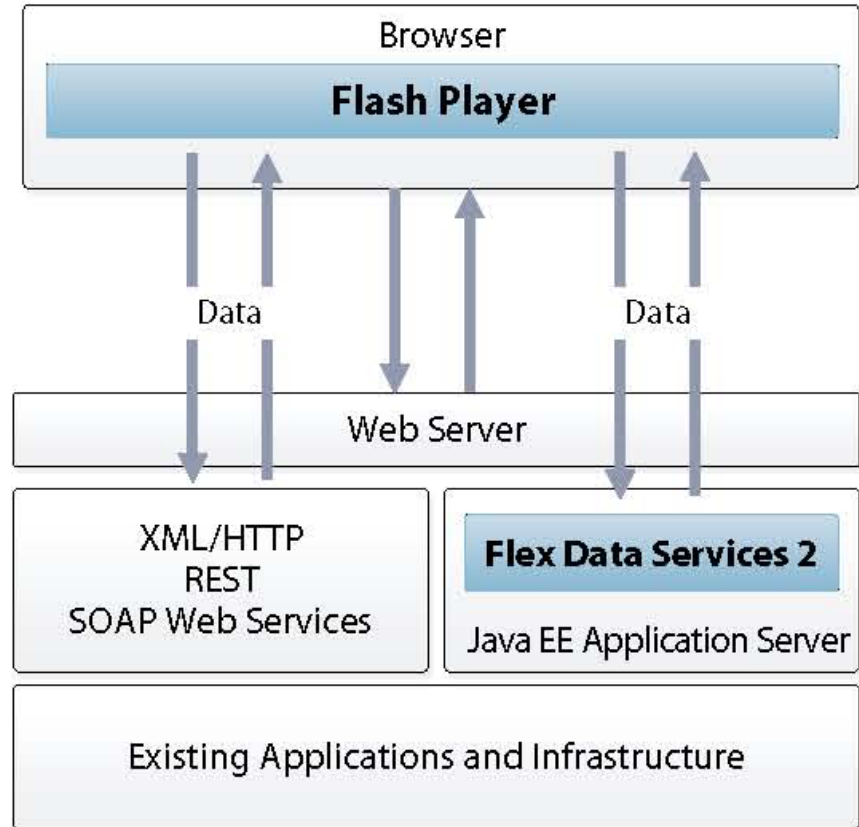
Flash Player

- Installed on more than 97 % of all Internet enabled PC's
- Flash Player 9
 - 90.3 % (June 2007)
 - High performance cross-platform runtime
 - Integrated support for text, graphics, animations and audio/video



Flex runtime architecture

- Flex runtime architecture
- Flex integrates with all common platforms; Java, .Net, PHP, Ruby, Perl, SAP



The EZMO story

- Online music service with unlimited storage to share with friends
- Built a brand new Flex UI in 2 weeks without any prior knowledge of Flex
- Increased speed with reduced development team
- Replaced over 20 000 lines of JavaScript / HTML code with under 5 000 lines of code
- Reduced lines of Java code with 12 000 lines

How was this possible

- Familiar syntax:
 - XML for UI
 - Action Script 3 not very different from Java
- Utilize existing knowledge & infrastructure
 - Spring Framework
 - Eclipse IDE for Java & Flex
 - Maven & CruiseControl for continuous integration
- Flex is a mature framework
- Reuse our existing Spring MVC solution

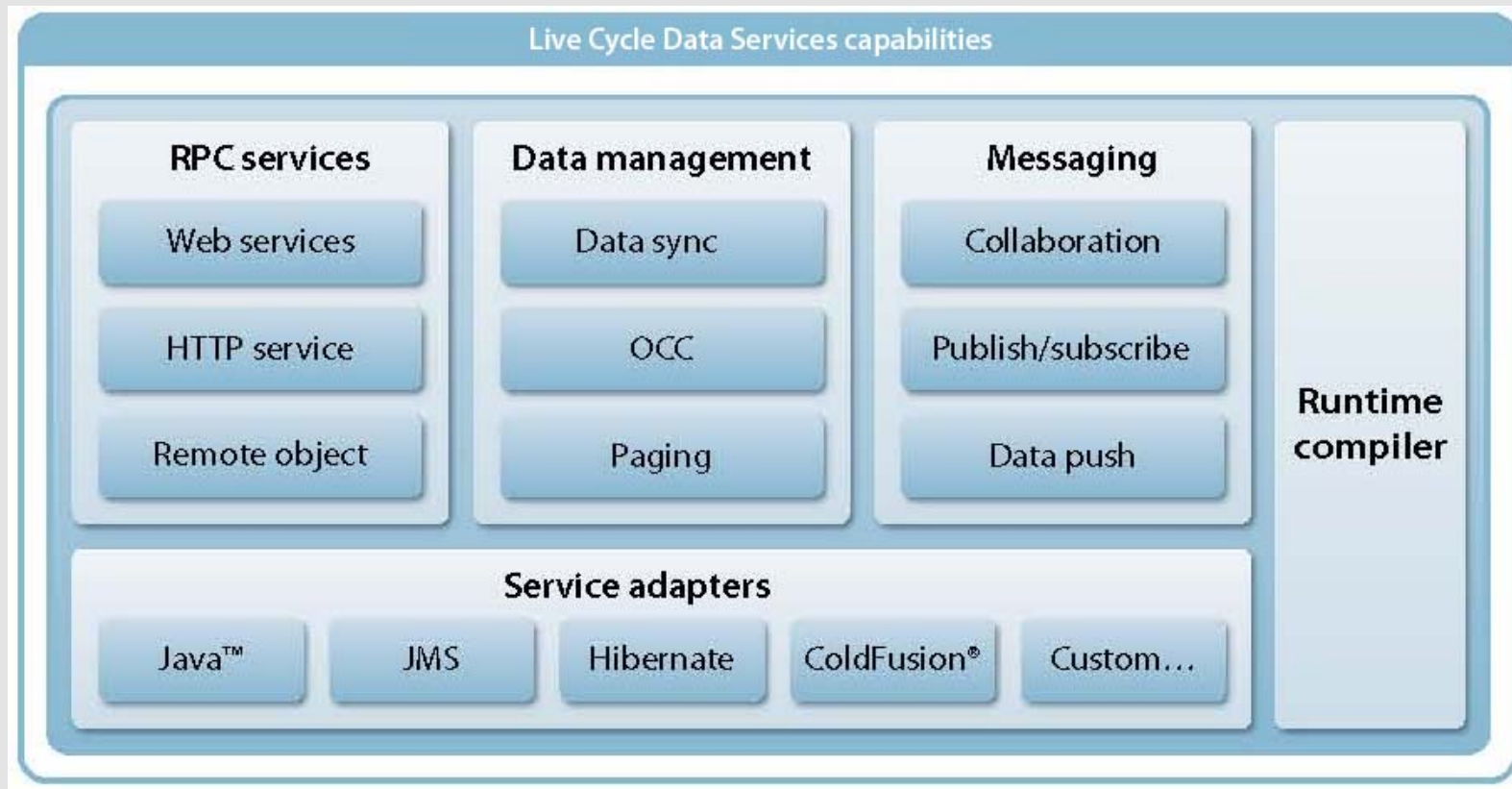
LiveCycle Data Services

- LiveCycle Data Services (LCDS)
 - Integrates the RIA with J2EE and business logic.
- Data integration
 - Remote Objects
 - Java Message Service (JMS)
 - Data Management Services (Data push)
- PDF Generation
 - Template based PDF generation
 - Integrates with other LiveCycle services; Workflow,

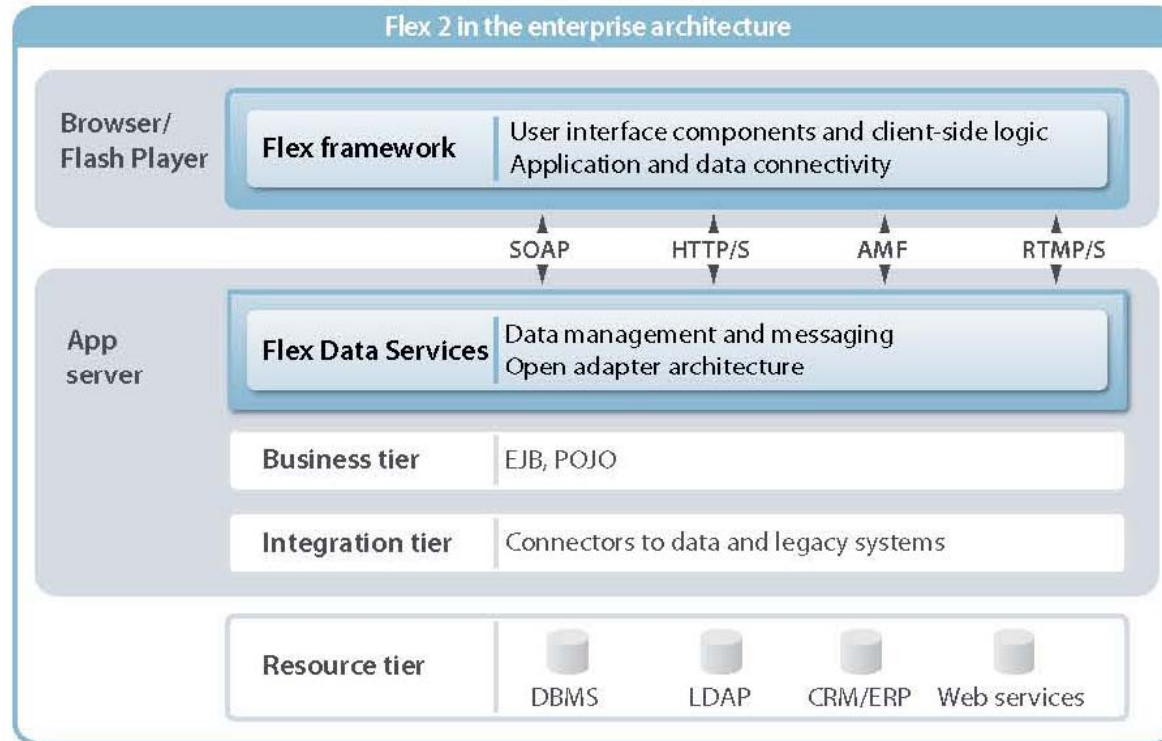
Data Services

- **RPC Services**
 - HTTP Services
 - Web Services
 - Remote Objects
 - POJO's
- **Data Messaging**
 - Java Messaging Service (JMS)
 - Publish/Subscribe
- **Data Management**
 - Enables data push and synchronization between clients
 - Paging
 - Conflict resolution
 - Offline capability with Adobe AIR

LiveCycle Data Services capabilities



Integrating LCDS with existing architecture



- Standard adapters and connectors
- No extra code needed!

Enterprise Architecture

- Cairngorm
 - Developed, Maintained and used by Adobe Consulting
 - Separation of Control
 - Model (State bucket), keeps all shared data, and common methods for manipulating shared data.
 - View, only view logic and UI components
 - Controller, register all commands
 - Services are stored in a single service-locator
 - Maintainable

Testing

- Unit testing
 - [FlexUnit](#), similar to Junit
- Functional testing
 - [HP \(Mercury\) QuickTest Professional](#)
 - [FunFX](#), Open Source, Peter Motzfeldt Bekk Consulting
- Load testing
 - [Flex Stress Testing Framework](#)
 - Coming soon:
 - [HP \(Mercury\) LoadRunner](#)
 - [Borland SilkPerformer](#)
 - [Radview Webload](#)

Competitors

Flex

- 1.0 released March 2004
- Huge community of existing developers
- Open Source SDK
- Supports multiple backends:
 - .Net
 - Cold Fusion
 - Java

SilverLight/Java FX

- SilverLight 1 RC, comparable to Flash Player 6
- SilverLight 1.1 (alpha) adds RIA capabilities
- JavaFX - Early Alpha
- Closed source
- No proper design tools

AJAX/GWT

- It is JavaScript... and the bugs are still present
- Cross platform/browser problems

When should I use Flex

File Edit View History del.icio.us Bookmarks Tools Help

http://www4.java.no/web/show.do?page=153

Ezmo Personal Add Feed nyzmo Graph Dashboard Localhost RSI Prevention SDP -Jira SDP Wiki Wiki SLIP 1.0 (Beta)

CruiseControl... Deployment I... Ezmo Gmail - Inbox ... Java Practice... IBM Testing objec... The Ezmo blog

HTTP Status 500 -

type Exception report

message

description The server encountered an internal error () that prevented it from fulfilling this request.

exception

```
javax.servlet.ServletException
    no.officenet.onp.ShowAction.performAction(ShowAction.java:472)
    no.officenet.onp.AbstractPortletSupportAction.perform(AbstractPortletSupportAction.java:443)
    org.apache.struts.action.ActionServlet.processActionPerform(ActionServlet.java:1787)
    org.apache.struts.action.ActionServlet.process(ActionServlet.java:1586)
    org.apache.struts.action.ActionServlet.doGet(ActionServlet.java:492)
    javax.servlet.http.HttpServlet.service(HttpServlet.java:689)
    javax.servlet.http.HttpServlet.service(HttpServlet.java:802)
```

note The full stack trace of the root cause is available in the Apache Tomcat/5.0.28 logs.

Apache Tomcat/5.0.28

When should I use Flex?

“In the enterprise space, I tend to recommend things like Flex because the development is much faster to get up and going,” *Bill Scott, AJAX evangelist at Yahoo.*

http://www.infoworld.com/article/07/09/06/rich-web_1.html

When should I use Flex?

- HTML+AJAX / GWT / etc still suffers from the [Laws Of Leaky Abstraction](#)
- Highly responsive interface
 - Design and Interaction is important
- Enterprise environment
- Tight deadlines and limited resources

Links

- [Adobe Flex](#)
- [Adobe LiveCycle Data Services](#)
- [Flex 3 on Adobe Labs](#)
- [Cairngorm](#)

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