Experts in Adobe® Flex™ & Air™

Adobe Solution PARTNER

FARATA

MyFlex.org
FarataSystems.com

Facelift your SOA with Rich Internet Applications

Yakov Fain,
Farata Systems

Farata Systems: Quick Intro

FARATA SYSTEMS

- Flex Experts for Your Next Project
- Tools to Turn Your Application into to RAD Project
- Certified Trainers to Raise Your Flex Talent

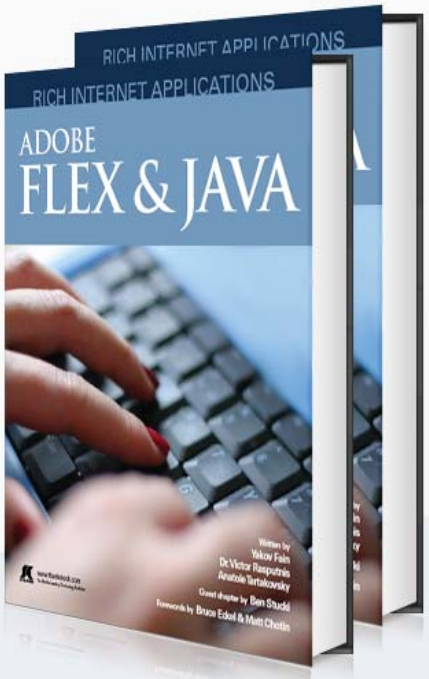
ClearDataBuilder

FxAnt

Fx2Doc

ClearBI

LogFx



www.theriabook.com

CLEAR BI

The Only RIA Solution for Enterprise Reporting

- Controlled by the Business Users
- Targeted for the Business Users
- Displayed by Flash Player
- Zero Installation on the User's PC
- Allows adding Excel-like formulas
- Users Create Groupings
- Users Modify Presentation
- Prints reports in PDF format
- Exports to Microsoft Excel
- Persist and share reports

www.myflex.org

Who's da man in a SOA project of the near future?

Jessica, End-User

Steve, User Experience Designer

Yakov, Front-End Developer

Mary, Back-End Developer

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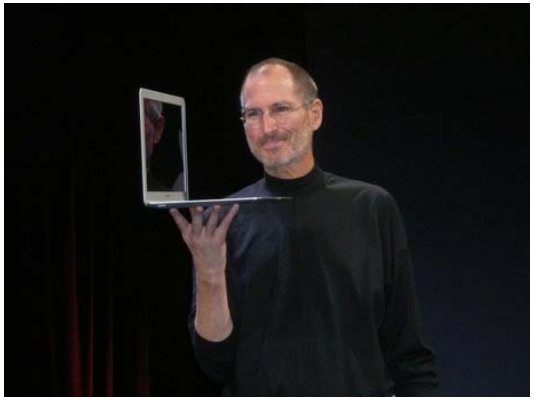
Who’s da man in a RIA project?

Jessica, End-User

Napkin on the knee is back and it works

Steve, User Experience Designer



Yakov, Front-End Developer

Mary, Back-End Developer

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Who’s da man in a RIA project?

Dear user, I’m your friend again!
What do you want me to change?

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RIA – The Major Technology Choices

- AJAX
- Adobe Flex 3
- Microsoft SilverLight 2.0 (Beta 2)
- Adobe AIR 1.1 (desktop/RIA)

RIA run on the client PC in VM or scripting engines

The trend: Declarative GUI programming backed by another programming language (MXML/ActionScript, JavaFX/Java, XAML/C#)

Smaller RIA players:
Curl
JavaFX(in a pre-release phase)

FHM Magazine, Top 100 Sexiest women
“And the winner is…”

Stay tuned for my choice

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Today's Enterprise RIA tools for SOA require

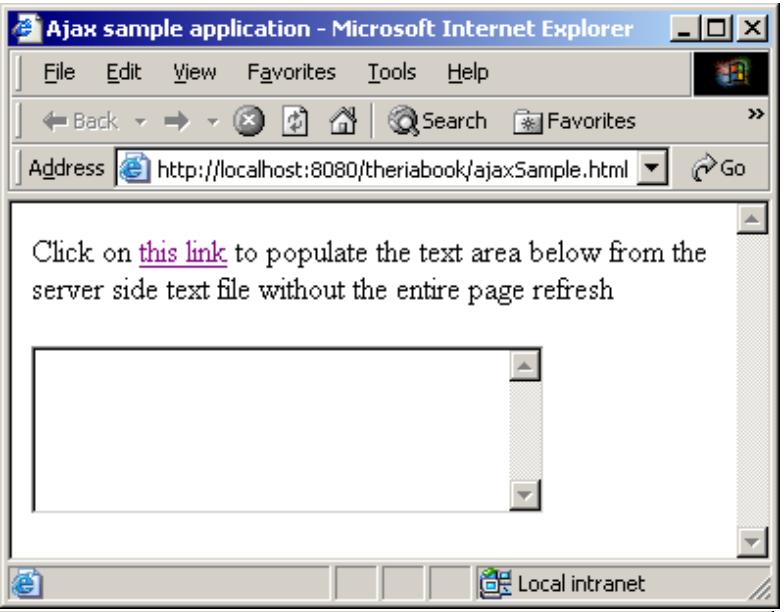
- Seamless deployment on the client
- High penetration of the runtime environment
- Web browser independence
- SOAP support
- Fast client-server communication protocols
- Robust security

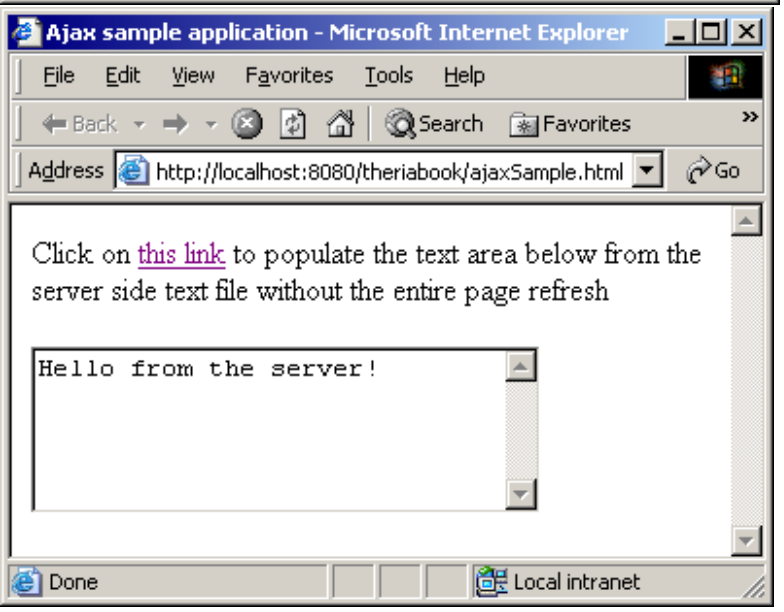
2008: Adobe Flex meets these criteria

2009: Microsoft Silverlight will start competing

2010: Sun's JavaFX Script may join the pack in 2010

AJAX – no page refreshes






```
<html lang="en" dir="ltr">
 <head>
  <title>Ajax sample application</title>
  <script type="text/javascript">
  var myXHR= new ActiveXObject("Microsoft.XMLHTTP");
  function goGetIt(){

       myXHR.open("GET", "/theriabook/hello.txt",true);
            myXHR.onreadystatechange=updateTheData;
            myXHR.send();
          }
          function updateTheData(){
           if (myXHR.readyState==4){
             myForm.someText.value=myXHR.responseText;
           }
    }
   </script>

 </head>
 <body>
  <p>Click on <a href="javascript:goGetIt()"> this link</a> to populate the text
      area below from the server side text file without the entire page refresh
  <form name="myForm">
    <textarea name="someText" rows="5" cols="30">
    </textarea>
  </form>
 </body>
</html>
```

Enterprise AJAX: Pros and Cons

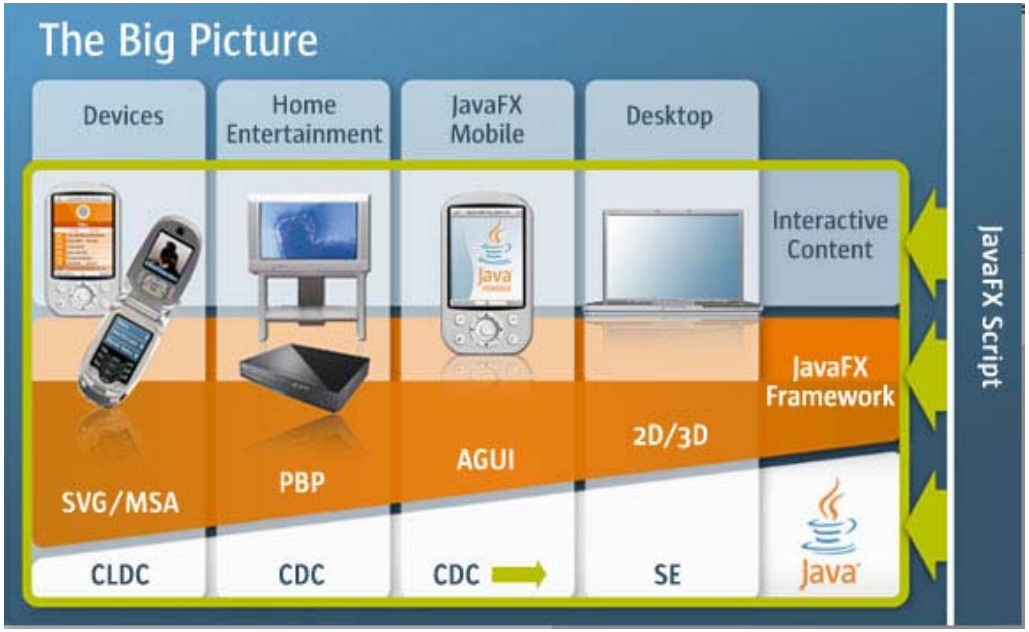
Pros	Cons
No deployment is required – major browsers support DHTML and XmlHttpRequest	AJAX applications are Web browser dependent
There is 120+ AJAX frameworks http://ntt.cc/2008/02/13/the-most-complete-ajax-framework-and-javascript-libraries-list.html	There is 120+ AJAX frameworks
No need to purchase software licenses to stat the project	AJAX projects are expensive due to long development cycles. Highly skilled developers demand top rates
AJAX projects allow you to put many consultants on billing, and they'll stay there for a while.	JavaScript is an interpreted language. Tons of source code travel over the wire Right-click on the page, View Source…
	Web browsers are very forgiving – if the code does not arrive…it's OK
	Network communication speed is not optimized. Bringing 20K rows of data to the client is a slow process.

On March 20, 2008 Forrester admits,

"**Ajax Disappoints Power Users Looking For Web 2.0-Style Business Apps**"

JavaFX (Script and Mobile)

- A Scripting Language from Sun Microsystems
- Declarative Syntax, Data Binding
- Uses Java Swing 2D
- There are JavaFX plugins for Eclipse and NetBeans IDE



When Java 6 Update 10 is ready, developers will add the following code snippet to the Web page:

```
<script src="http://someserver.sun.com/deploy.js">
Deploy.applet("myapp.jar","com.me.MyApp","1.5+");
</script>
```

The client's JRE will be tested and installed or upgraded if need be. Then Sun's server-side script will generate the Applet tag and load the Web app. to the client.

- http://openjfx.dev.java.net
- www.javafx.com

JavaFX Script 1.0 – Fall '08
JavaFX Mobile 1.0 - 2009

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Sample JavaFX calculator

This code is taken from an article published at http://www-128.ibm.com/developerworks/java/library/j-javafx/

```
Frame { menubar: MenuBar { ...
        }
        //text displayed in title bar
        title: "Calculator"
        //size of frame height: 200
        width: 200
        //begin content layout
        content: GridBagPanel { ... }
        visible: true
        }
```

```
menubar: MenuBar {
 menus: Menu {
  text: "File"
  //first item in the menu
   items: MenuItem {
          text: "Exit"
          //on-click operation
           action:   operation() {
          //exit the application
          System.exit(0);
           }
    }
 } }
```

```
content: GridBagPanel
{
    border: EmptyBorder
{
     ...
    }
    cells: {
      ...
     }
}
```

```
cells:
      [ GridCell {
          anchor: WEST
          fill: HORIZONTAL
          //horizontal grid
position
          gridx: 0
          //vertical grid
position
          gridy: 0
          //column span
          gridwidth: 4
          content: textField
      }, GridCell {
          anchor: WEST
          fill: HORIZONTAL
          gridx: 0
          gridy: 1
          gridwidth: 2
          content: Button {
            text: "Back"
            ...
          }
```

```
var textField = TextField
{
   //default value
   value: "."
horizontalAlignment:
TRAILING
   onChange:
operation(s:String) {
     …
   }
};
```

```
}, GridCell {
          anchor: WEST
          fill: HORIZONTAL
          gridx: 0
          gridy: 2
          content: Button {
            text: "7"
            ...
          }
      }, GridCell {
          anchor: WEST
          fill: HORIZONTAL
          gridx: 1
          gridy: 2
          content: Button {
            text: "8"
            ...
          }
      }]
```

Microsoft Silverlight 1.0

Silverlight 1.0 is a client-side runtime that enables you to design, develop, and deliver rich, interactive experiences over the Internet. Windows XP, Vista, Mac OS

Silverlight 1.0 has been released in 2007, but was not competitive – it's good for media streaming only.

XAML (Extensible Application Markup Language) + JavaScript engine

Pros: HD video through a Web browser

Cons: No controls for business applications, no layout managers, no CSS support

Microsoft Silverlight 2.0 (Beta 2)

•WPF UI Framework: graphics, animation engine, controls, layout management, data binding, styles, template skinning

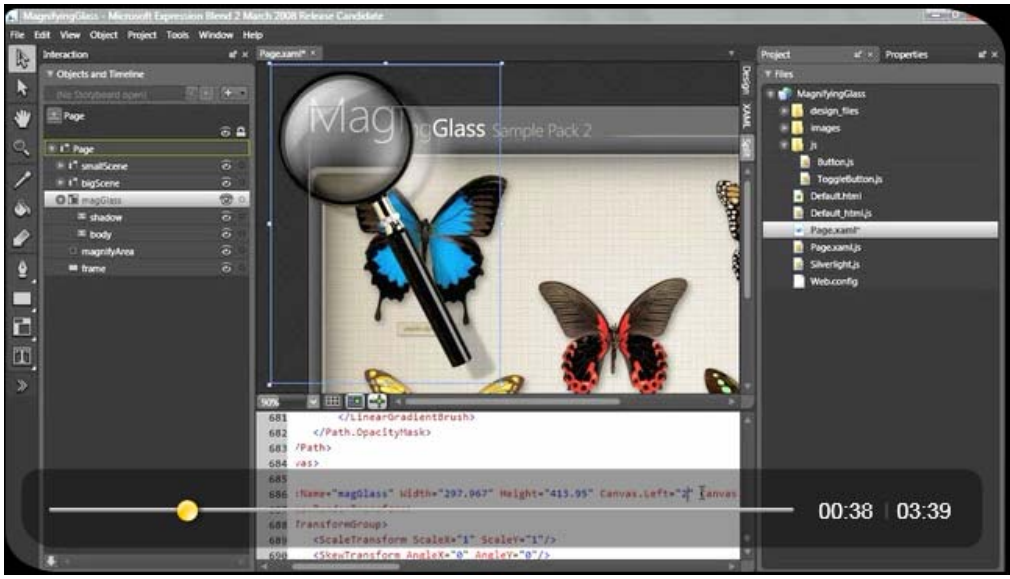
•Rich Controls: panels, grids, DataGrid, Slider, Calendar, DatePicker, etc.

•Rich Networking Support: REST, SOAP, RSS, HTTP, sockets

•Rich Base Class Library: includes .Net base class library (collections, generics, threading, XML, JavaScript integration. The .Net API is a subset of .Net framework

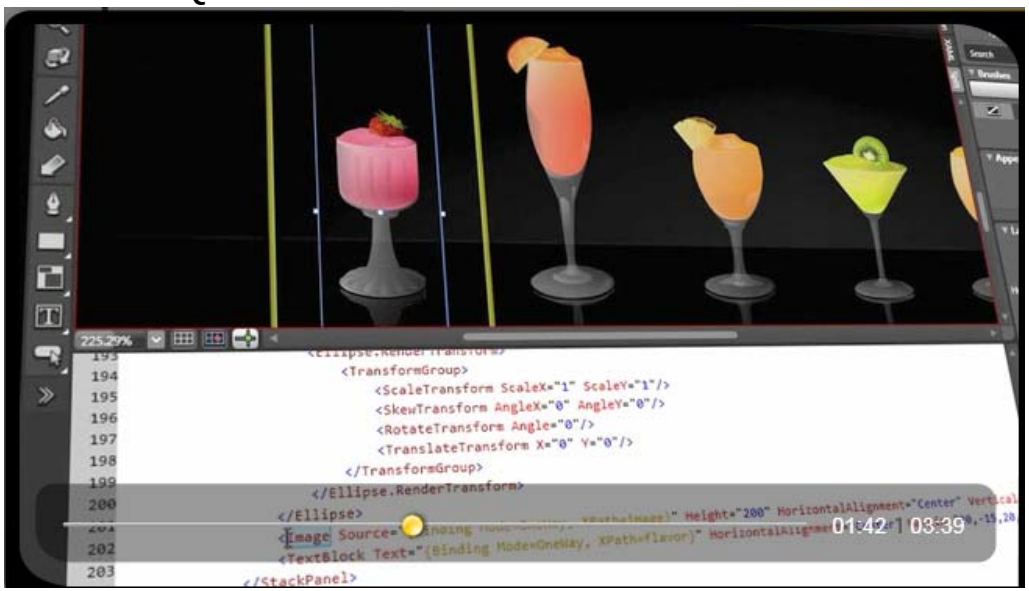
Microsoft Silverlight 2.0 (cont.)

Tooling: Expression Studio 2
Expr. Design, Expr. Blend, Expr. Web, Expr. Media, Expr. Encoder
http://www.microsoft.com/expression/
Visual Studio 2008



Microsoft aims at both developers and visual designers (Web designers, Advertising agencies)

Supporting Servers: Internet Information Server 7, Windows Communication Server, MS SQL Server



Dynamic Language Runtime (DLR): IronPython, IronRuby

Silverlight 2.0 runtime is 4.3Mb, installation is fast on the client PC.

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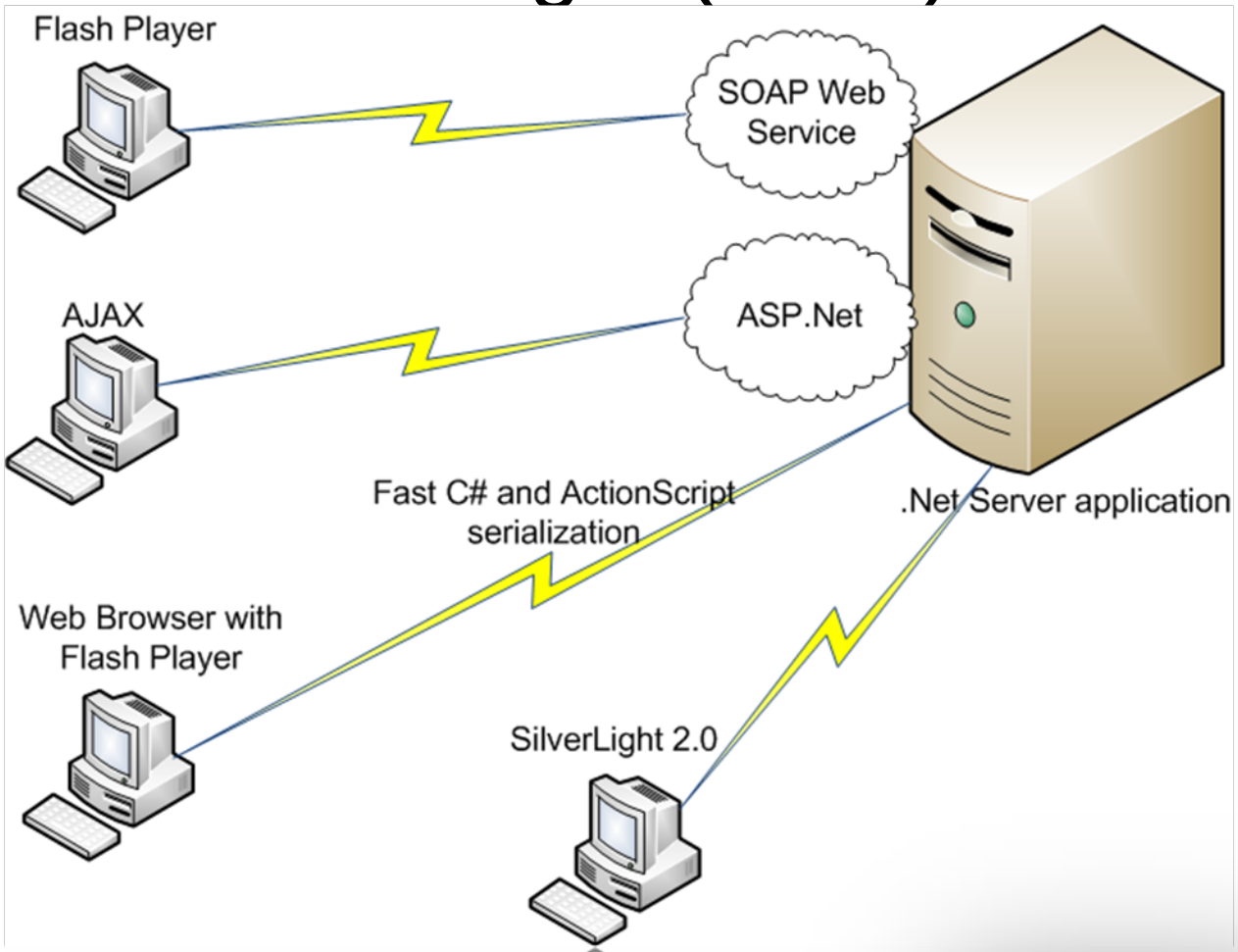
Microsoft Silverlight (cont.)

Major Silverlight challenge:
Low penetration of the runtime engine

Solution:
C'mon, it's Microsoft. Just give them a couple of years.

Silverlight: 1.5M downloads a day
Flash Player: 8.5M



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FHM Magazine – Angelina is #9

This would be my choice

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Silverlight Code Sample

These code samples are taken from Scott Guthrie blog:
http://weblogs.asp.net/scottgu/archive/2008/02/22/first-look-at-silverlight-2.aspx

```
<Data:DataGrid x:Name="StoriesList" Grid.Row="1" Margin="5" AutoGenerateColumns="True">
</Data:DataGrid>
```

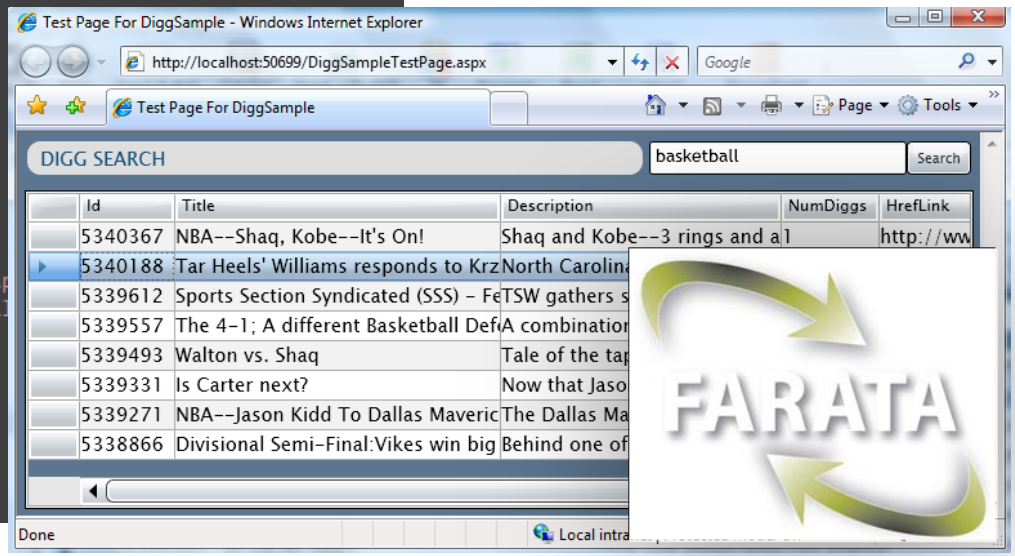
```
<Border Grid.Column="0" CornerRadius="10" Background="#FFDEDEDE" Margin="0,0,5,0">
    <TextBlock Text="DIGG SEARCH" Foreground="#FF14517B" Margin="10,3,0,0" />
</Border>
```

```
void DiggService_DownloadStoriesCompleted(object sender, DownloadStringCompletedEventArgs e)
{
    if (e.Error == null)
    {
        DisplayStories(e.Result);
    }
}

void DisplayStories(string xmlContent)
{
    XDocument xmlStories = XDocument.Parse(xmlContent);

    var stories = from story in xmlStories.Descendants("story")
                  where story.Element("thumbnail") != null
                  select new DiggStory
                  {
                      Id = (int)story.Attribute("id"),
                      Title = (string)story.Element("title"),
                      Description = (string)story.Element("descrip
                      ThumbNail = (string)story.Element("thumbnai
                      HrefLink = (string)story.Attribute("link"),
                      NumDiggs = (int)story.Attribute("diggs")
                  };

    StoriesList.ItemsSource = stories;
}
```



Adobe's Tools for RIA Development

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What is Flex 3?

MXML – an XML-based declarative programming language for creating GUI

ActionScript 3.0 – an object oriented language very similar to Java

Command line compilers and debugger

Flex Builder is an Eclipse based IDE. IntelliJ IDEA already offers some Flex support.

HelloWorld.mxml → HelloWorld.as→ HelloWorld.swf (byte code) →HTML Wrapper

Flash Player 9 – is a virtual machine that runs swf files:
(HelloWorld.swf →JIT compiler→ machine code)

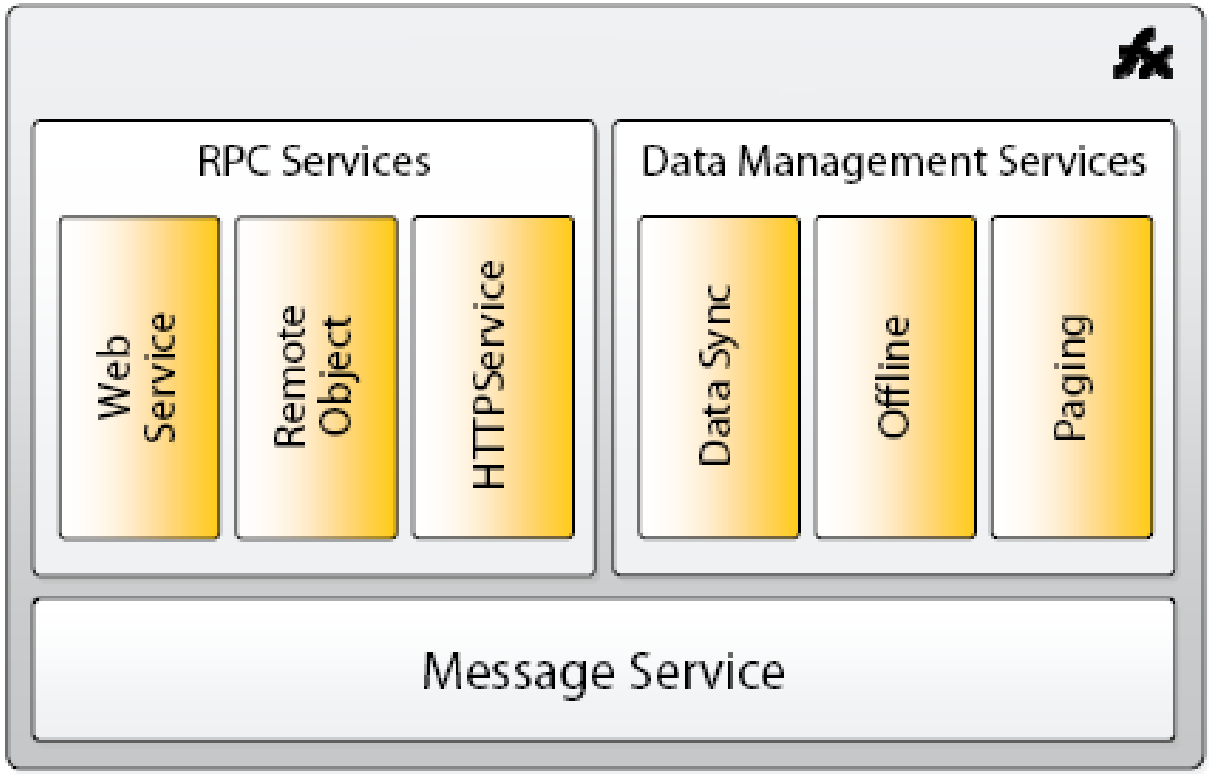
LiveCycle Data Services ES -a Web application deployed in J2EE server **($$$$)**

BlazeDS – an alternative to LiveCycle Data Services is open source and free

Fast connectivity with server side Java : LCDS or BlazeDS

Flex offers various connectivity options: RPC with POJO, Messaging w/out JMS, Web Services, HTTP with remote URLs trough proxy and data management service.

Configure your destinations in LiveCycle Data Services ES configuration files and deploy LCDS or BlazeDS it with your Web application on the server.



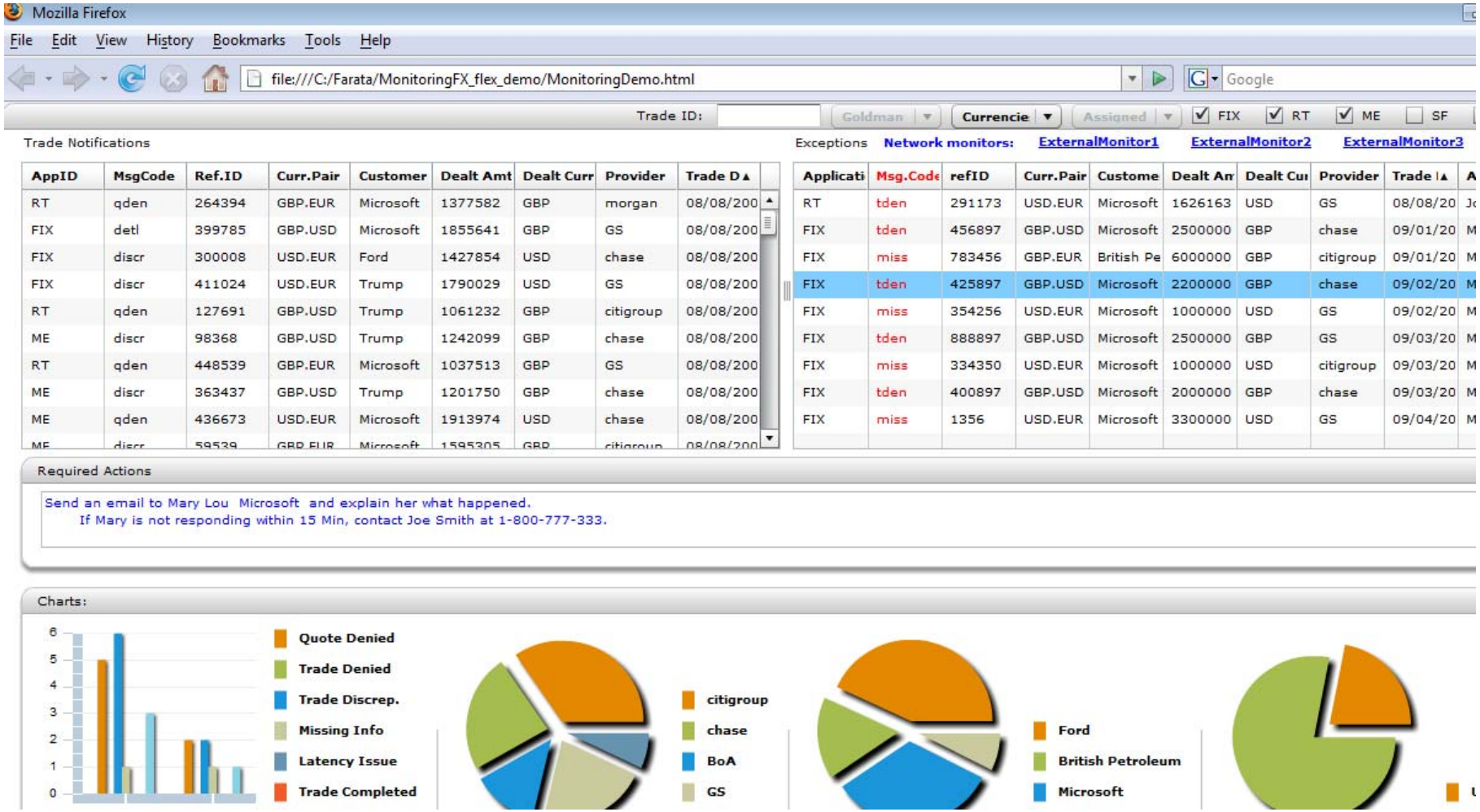
LiveCycle Data Services ES

BlazeDS is a subset of LCDS that does not include Data Management Services and the server-side message push.

Our Real-World RIA/SOA projects

RIA consuming log feeds from FX systems:

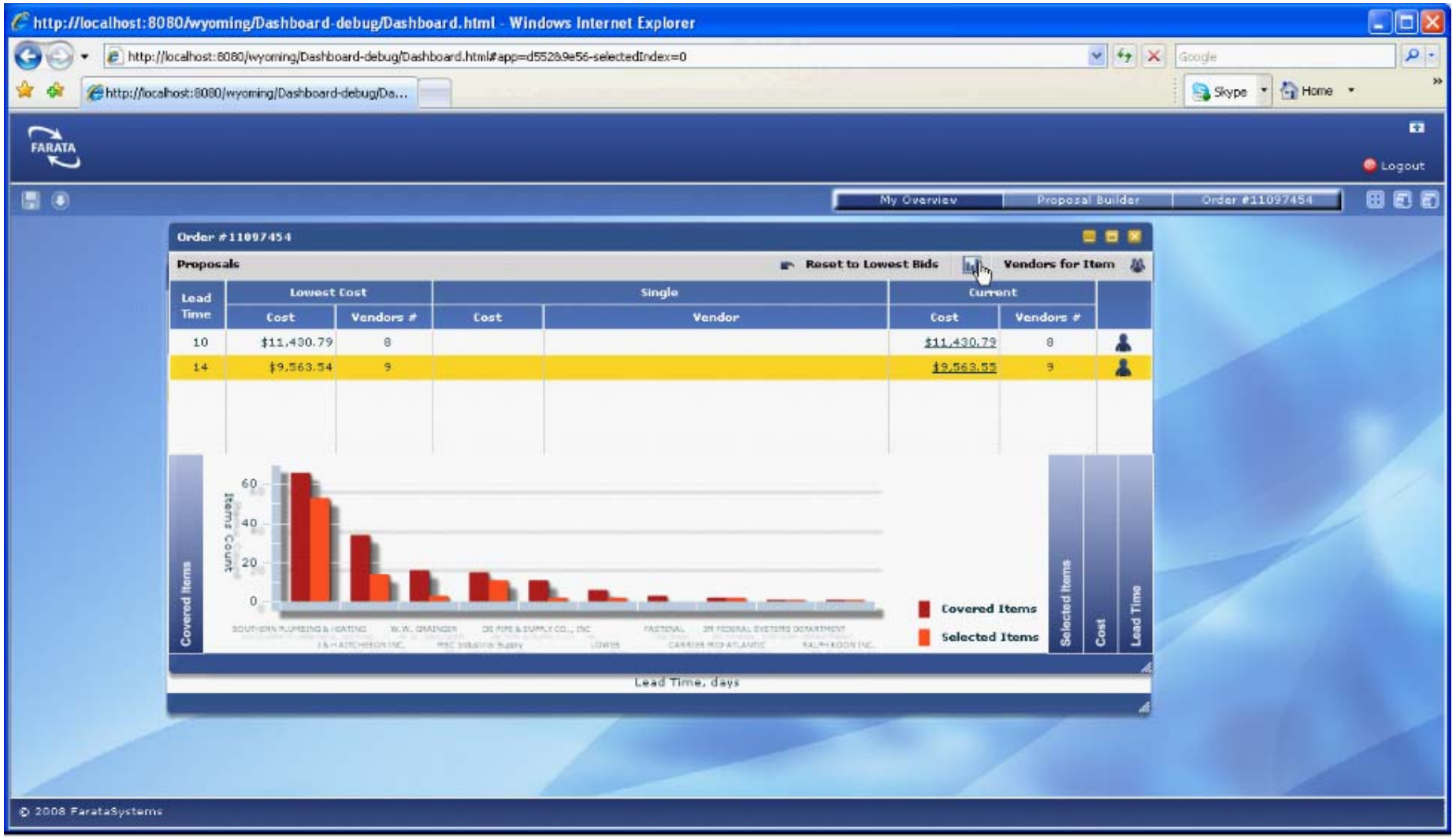
file:///C:/Farata/MonitoringFX_flex_demo/MonitoringDemo.html



Our Real-World RIA/SOA projects (cont.)

A portal for a logistics company

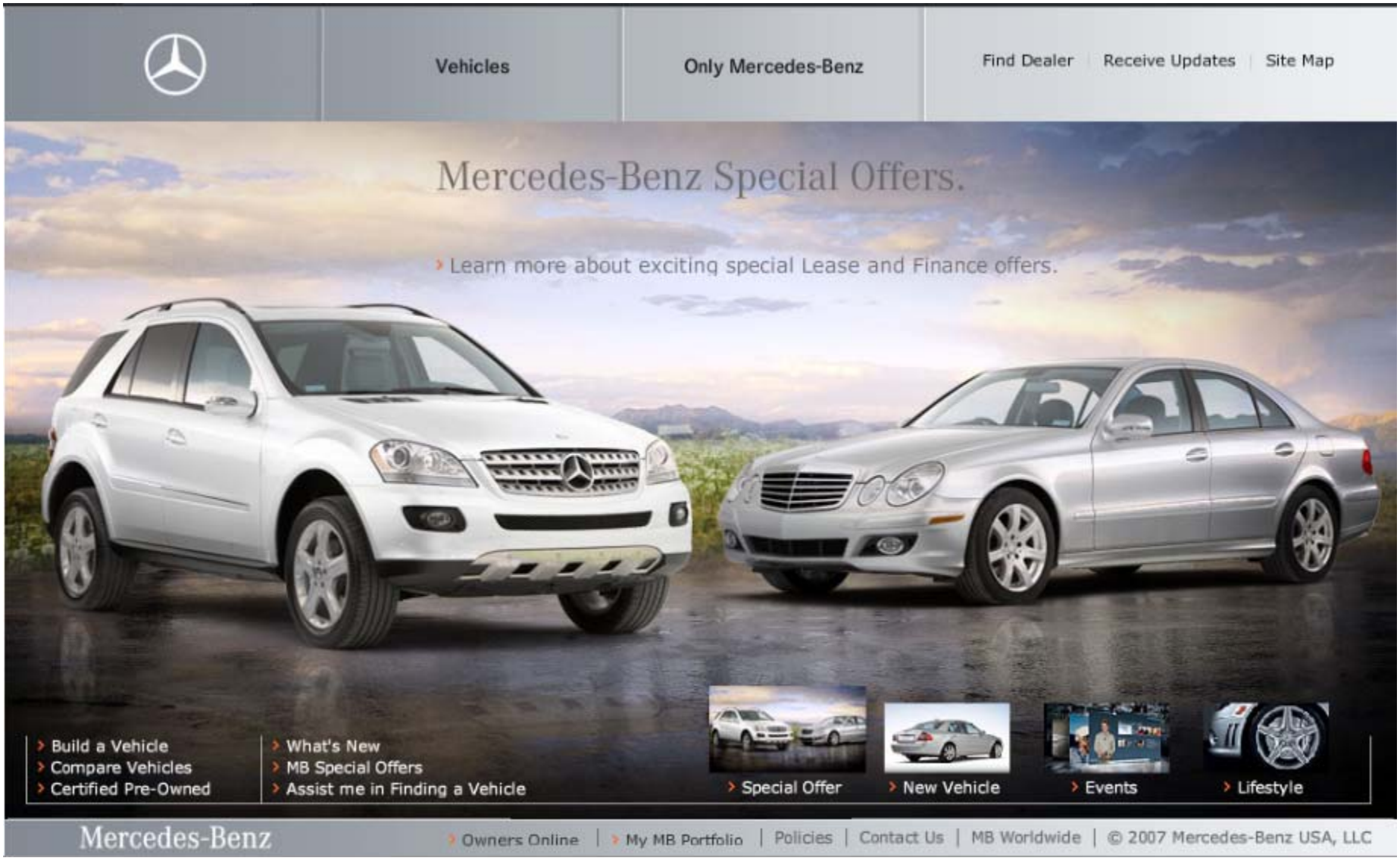
file:///C:/RIA Logistics_Portal



Our Real-World RIA/SOA projects (cont.)

A consumer-facing automotive Web site

Mercedes Bentz USA



Our Real-World RIA/SOA projects (cont.)

FoodDial for Facebook: http://www.myflex.org/fooddial/FoodDial.html

Flex Eating SOUP for Breakfast

A

Hands-on

Our Free Productivity Plugins

We’re mixing Java, XSLT and Flex

- Clear Data Builder – a CRUD generator for Flex and Java

  CDB 3.0 is in beta now and will be distributed for free.
Just google “Cooking CRUD with Flex and BlazeDS” for a demo

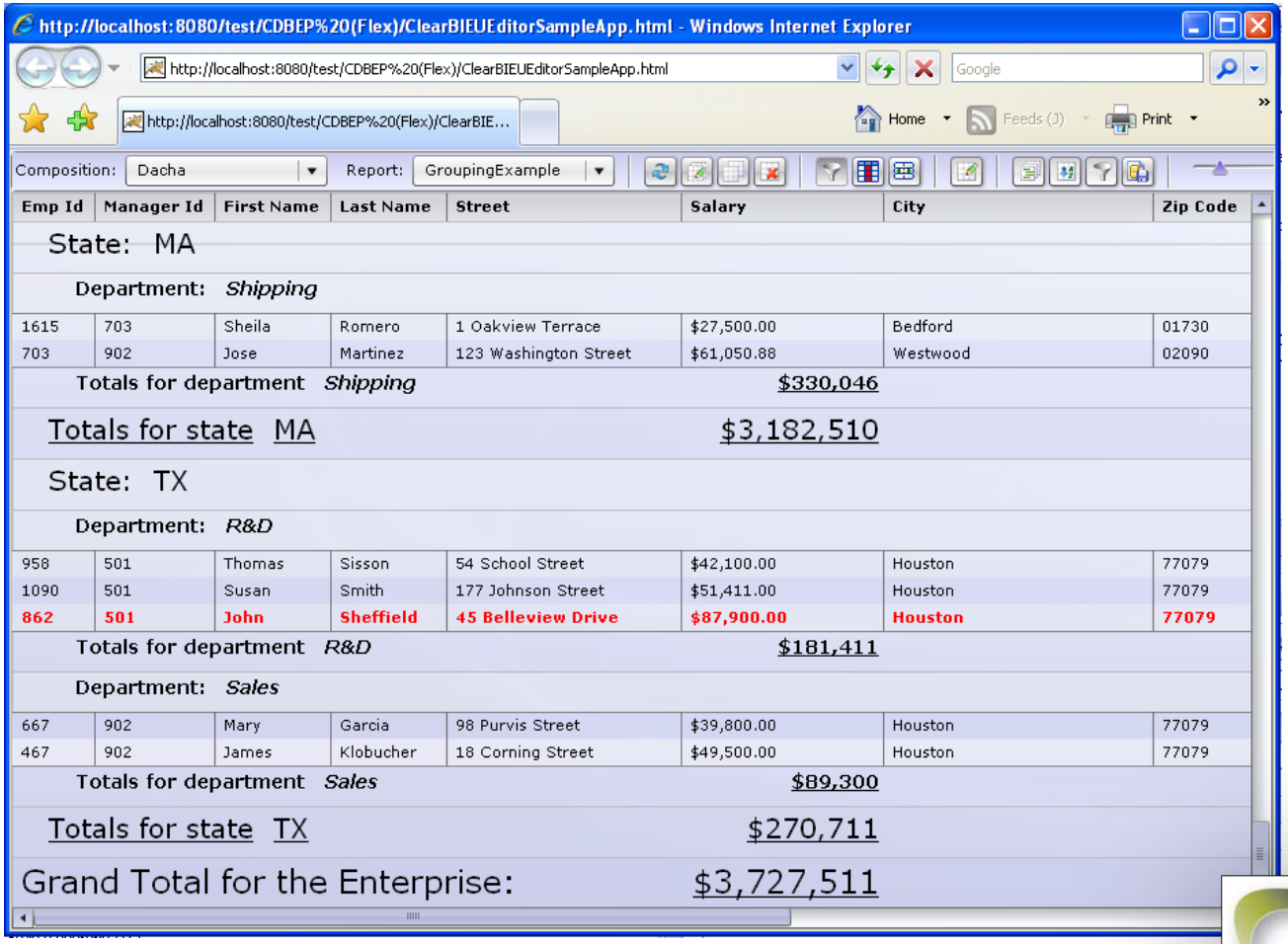
- Fx2Ant – an automatic creator of Ant scripts for your project

- Log4Fx - an advanced logger for Flex applications

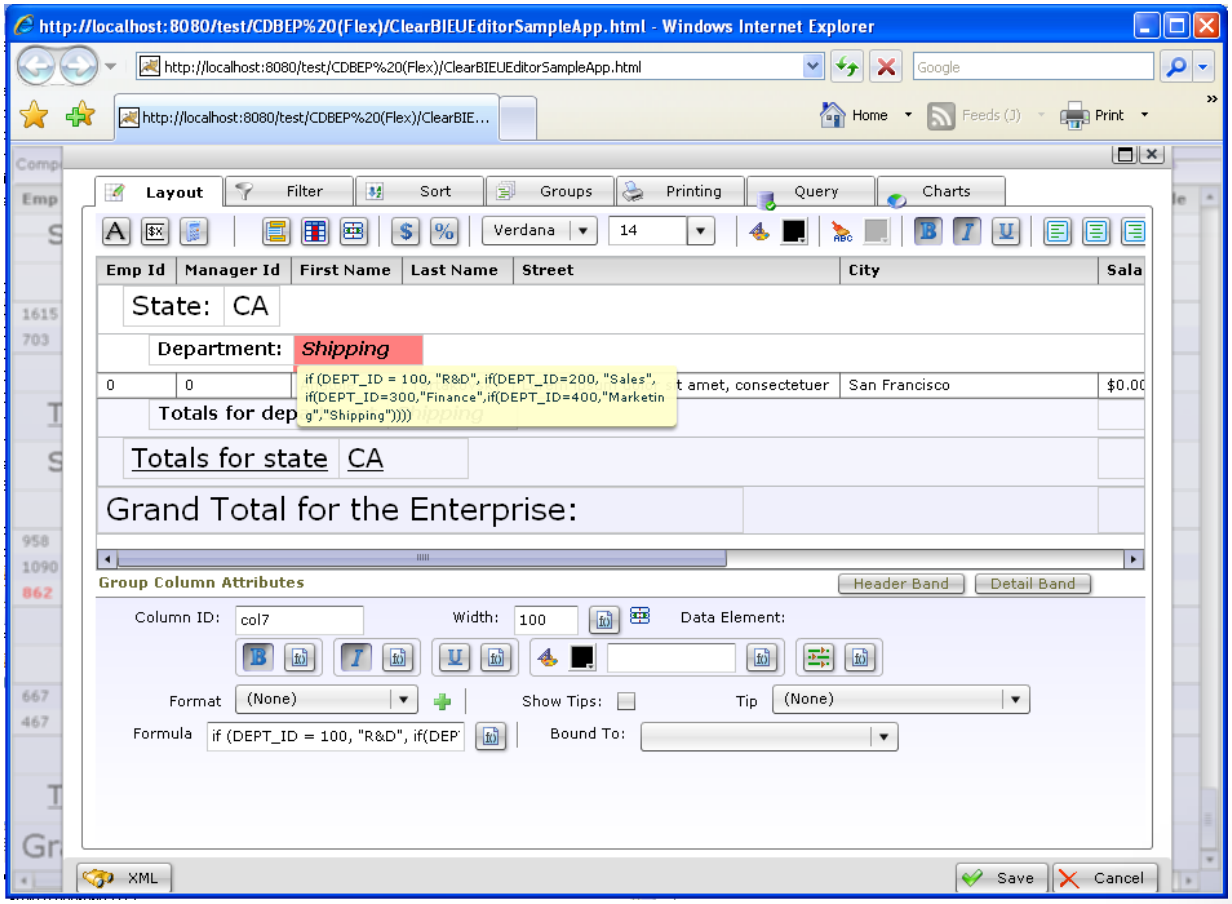
These plugins and can be downloaded at

www.myflex.org

Desktop and Web Reporter: ClearBI



ClearBI Report Designer for end users



The end user edit reports without the need to install anything but Flash Player, which they already have.

FARATA

You can run from SOA, you can run from RIA, but you can't hide!

- **Email**

  yfain@faratasystems.com

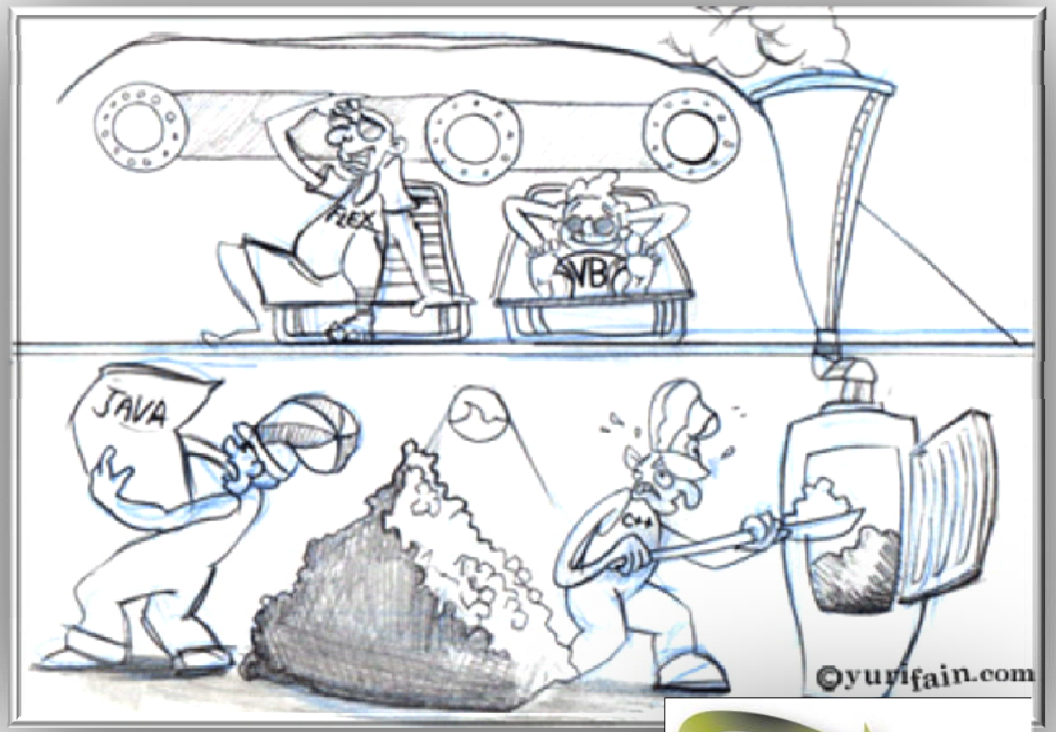
- **Web sites**

  www.faratasystems.com

  flexblog.faratasystems.com

  www.myflex.org

  www.theriabook.com



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