



*Experts
in Adobe®
Flex™ & Air™*



Facelift your SOA with Rich Internet Applications



MyFlex.org
FarataSystems.com

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



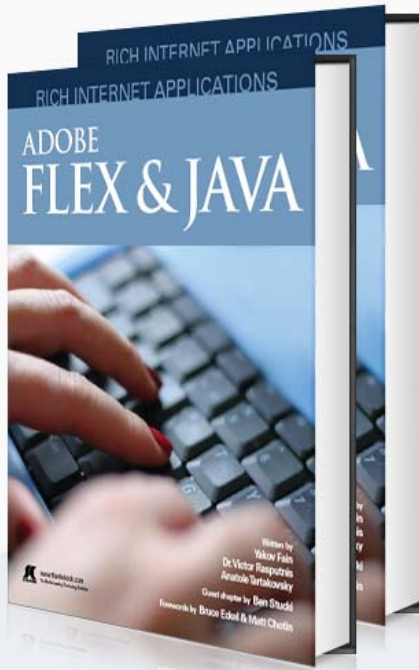
Fx2Doc



ClearBI



LogFx



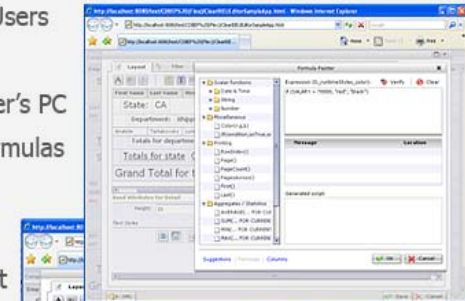
www.theriabook.com

CLEAR BI

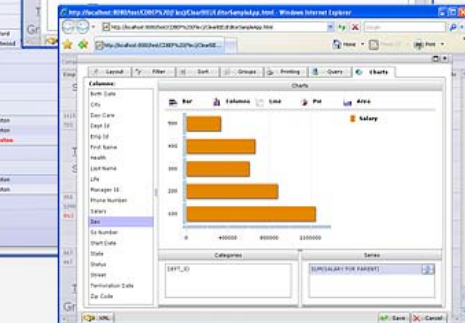
The Only RIA Solution for Enterprise Reporting

- 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

Emp ID	Manager ID	First Name	Last Name	Street	Salary	City
1001	1002	Shane	Bowers	4 Oakview Terrace	\$17,000.00	Bardonia
1002	1002	Steve	Hartman	121 Washington Street	\$61,000.00	Westfield
Totals for department: Shipping					\$320,000	
Totals for state: MA					\$3,182,510	



Emp ID	Manager ID	First Name	Last Name	Street	Salary	City
1001	1002	Shane	Bowers	4 Oakview Terrace	\$17,000.00	Bardonia
1002	1002	Steve	Hartman	121 Washington Street	\$61,000.00	Westfield
Totals for department: Shipping					\$320,000	
Totals for state: CA					\$3,182,510	
Grand Total for the Enterprise:					\$3,182,510	



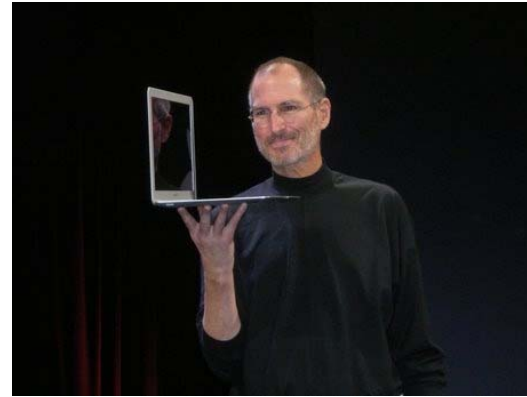
www.myflex.org

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



Who's da man in a RIA project?

Jessica, End-User



Napkin on the knee is back and it works

Steve Jobs, User Experience Designer



Yakov, Front-End Developer



Mary, Back-End Developer



Who's da man in a RIA project?



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



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...”



01 MEGAN FOX

Winning debut
There's not a woman alive who looks better bent over a 1976 Chevrolet Camaro in a denim miniskirt. With a sultry glower, capricious pout and six tattoos, she's the junior Angelina Jolie (but without the orphan addiction).

MORE MEGAN

MEGAN FOX - HOTTEST WOMAN ON THE WEB?
MEGAN FOX: FOXY

Stay tuned for my choice



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

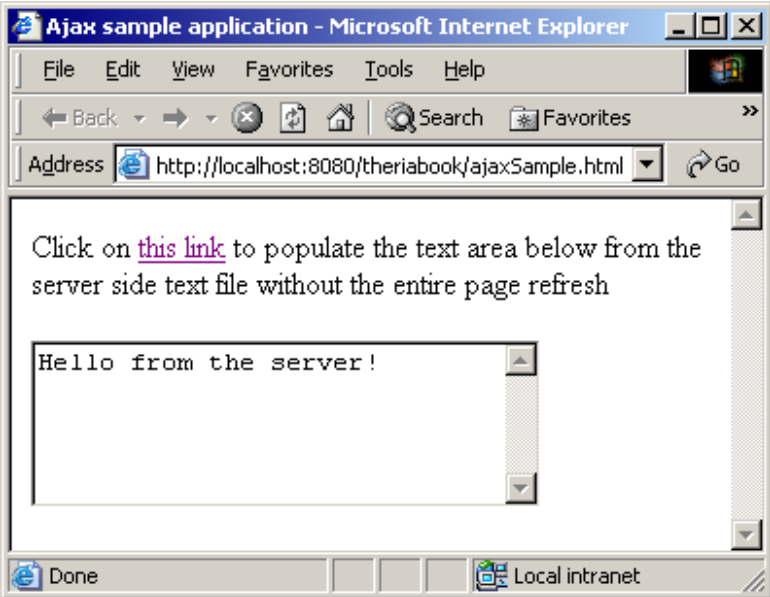
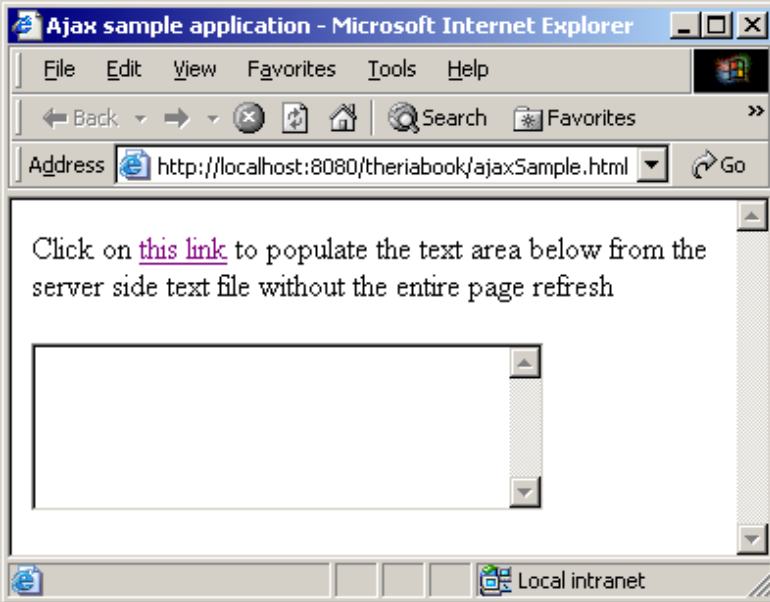
2008: Adobe Flex meets these criteria

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>
```



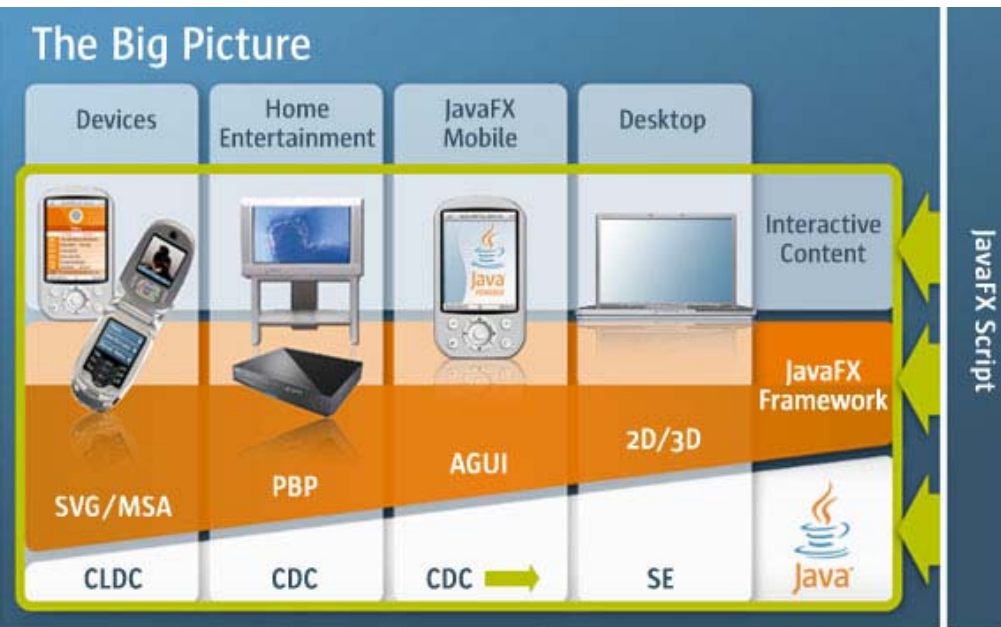
Enterprise AJAX: Pros and Cons

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 start 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.javaafx.com

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



Sample JavaFX calculator

This code is taken from an article published at

[http://www-](http://www-128.ibm.com/developerworks/java/library/j-javafx/)

[128.ibm.com/developerworks/java/library/j-](http://www-128.ibm.com/developerworks/java/library/j-javafx/)

[javafx/](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.)

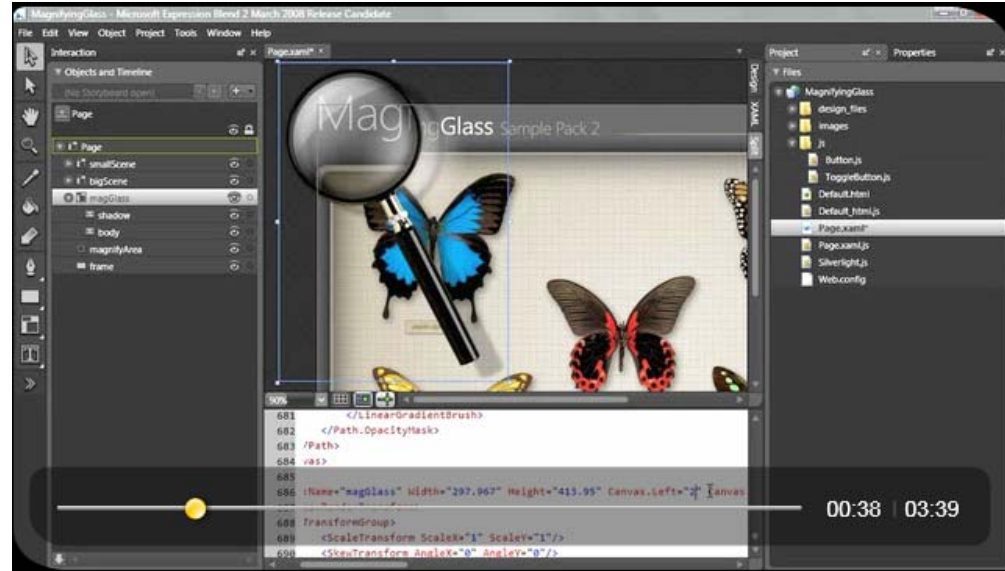
Tooling: [Expression Studio 2](#)

Expr. Design, Expr. Blend, Expr. Web,
Expr. Media, Expr. Encoder

<http://www.microsoft.com/expression/>
Visual Studio 2008

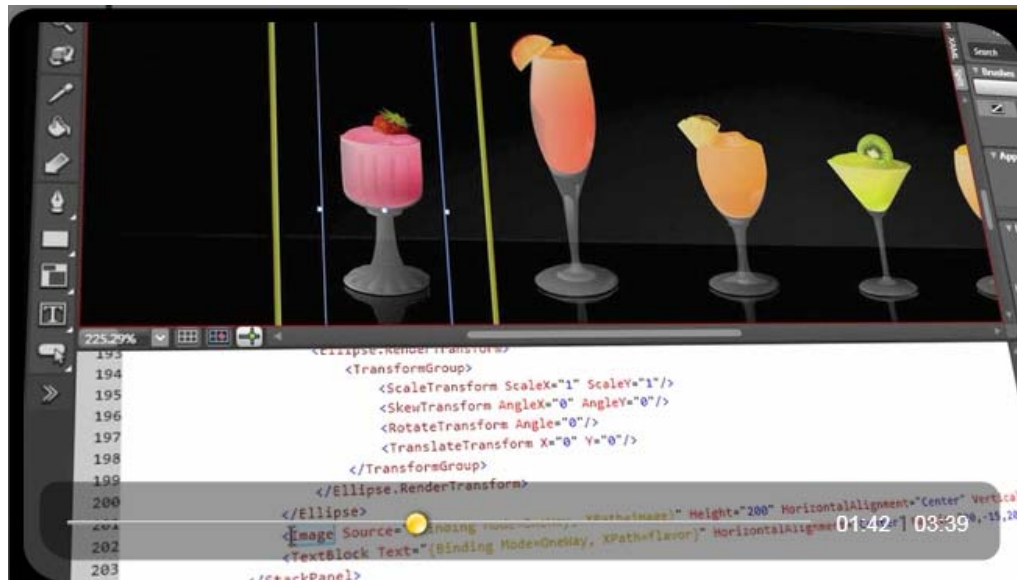
Microsoft aims at both developers and
visual designers (Web designers,
Advertising agencies)

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.



Microsoft Silverlight (cont.)

Major Silverlight challenge:

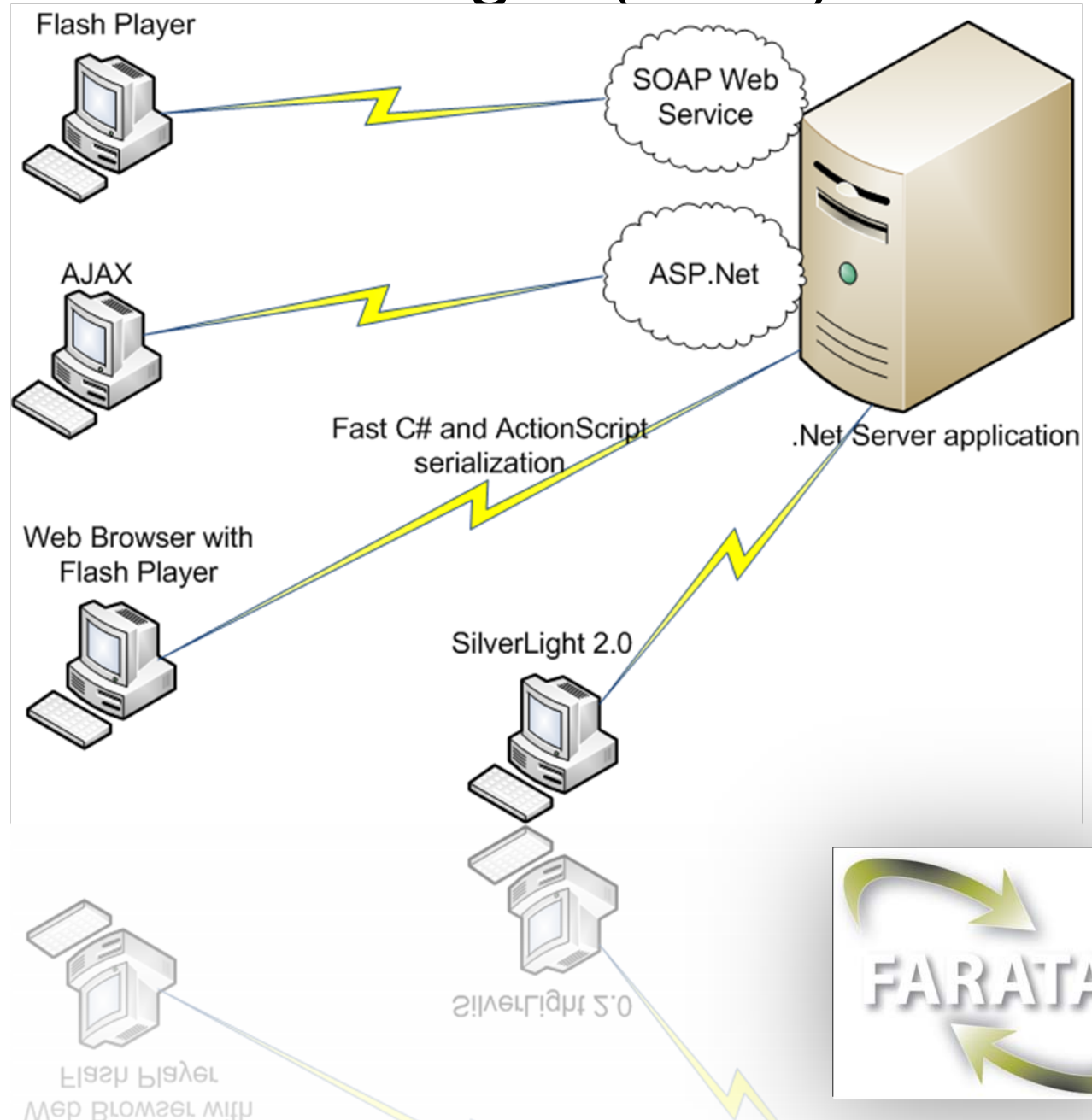
Low penetration of the runtime engine

Solution:

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

Silverlight: 1.5M downloads a day

Flash Player: 8.5M



FHM Magazine – Angelina is #9



09 ANGELINA JOLIE

Child catcher
Debatably, she's the world's most physically faultless female, from her vivid bottle-green eyes to those flawless curves (recall her as Lara Croft?). And then there's her weakness for swinging both ways. "Am I bisexual?" she smiles. "Absolutely. Yes."

MORE ANGELINA

ANGELINA JOLIE IN *WANTED* - AWESOME NEW TRAILER
ANGELINA JOLIE - 100 SEXIEST HALL OF FAME - 2007

This would be my choice



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)

<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>
```

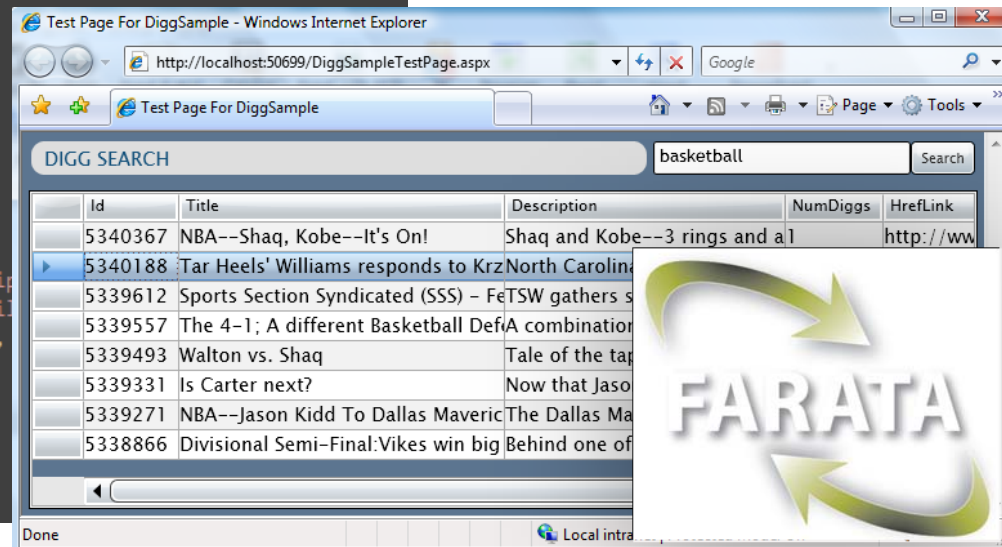
```
<Border Grid.Column="0" CornerRadius="10" Background="#FFDEDE" Margin="0,0,5,0">
  <TextBlock Text="DIGG SEARCH" Foreground="#FF14517B" Margin="10,3,0,0" />
</Border>
```

```
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("description"),
                      Thumbnail = (string)story.Element("thumbnail"),
                      HrefLink = (string)story.Attribute("link"),
                      NumDiggs = (int)story.Attribute("diggs")
                  };

    StoriesList.ItemsSource = stories;
}
```



The screenshot shows a web browser window titled "Test Page For DiggSample - Windows Internet Explorer". The address bar shows "http://localhost:50699/DiggSampleTestPage.aspx". The search bar contains "basketball" and the search button is labeled "Search". Below the search bar is a table of search results with columns: Id, Title, Description, NumDiggs, and HrefLink. The table contains several rows of results, including "NBA--Shaq, Kobe--It's On!", "Tar Heels' Williams responds to KrzNorth Carolina", "Sports Section Syndicated (SSS) - FeTSW gathers s", "The 4-1; A different Basketball DefiA combination", "Walton vs. Shaq", "Is Carter next?", "NBA--Jason Kidd To Dallas MavericThe Dallas Ma", and "Divisional Semi-Final:Vikes win big Behind one of". A large green circular arrow graphic with the word "FARATA" in white text is overlaid on the bottom right of the browser window.

Id	Title	Description	NumDiggs	HrefLink
5340367	NBA--Shaq, Kobe--It's On!	Shaq and Kobe--3 rings and a		http://ww
5340188	Tar Heels' Williams responds to KrzNorth Carolina			
5339612	Sports Section Syndicated (SSS) - FeTSW gathers s			
5339557	The 4-1; A different Basketball DefiA combination			
5339493	Walton vs. Shaq	Tale of the tap		
5339331	Is Carter next?	Now that Jaso		
5339271	NBA--Jason Kidd To Dallas MavericThe Dallas Ma			
5338866	Divisional Semi-Final:Vikes win big Behind one of			

Adobe's Tools for RIA Development



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 (\$\$\$\$)

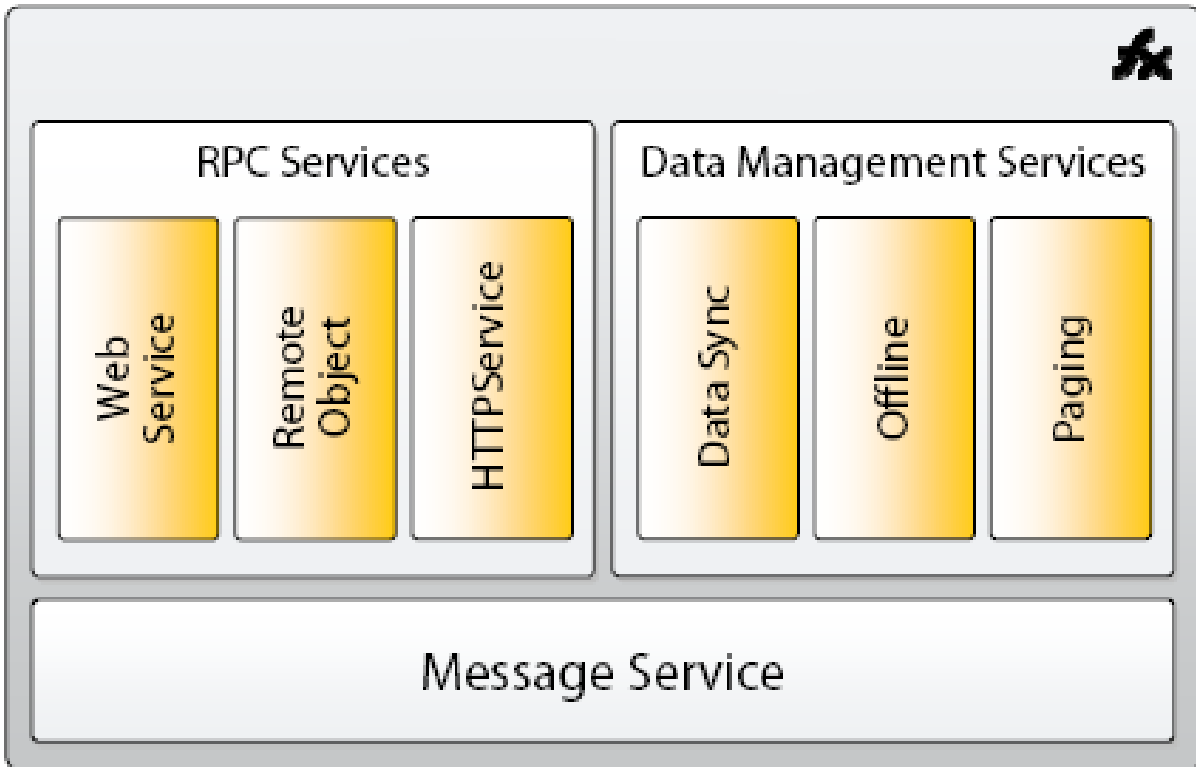
BlazeDS – an alternative to LiveCycle Data Services is open source and free



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 through 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

Mozilla Firefox

File Edit View History Bookmarks Tools Help

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

Trade ID: Goldman Currencie Assigned FIX RT ME SF

Trade Notifications

AppID	MsgCode	Ref.ID	Curr.Pair	Customer	Dealt Amt	Dealt Curr	Provider	Trade D
RT	qden	264394	GBP.EUR	Microsoft	1377582	GBP	morgan	08/08/200
FIX	detl	399785	GBP.USD	Microsoft	1855641	GBP	GS	08/08/200
FIX	discr	300008	USD.EUR	Ford	1427854	USD	chase	08/08/200
FIX	discr	411024	USD.EUR	Trump	1790029	USD	GS	08/08/200
RT	qden	127691	GBP.USD	Trump	1061232	GBP	citigroup	08/08/200
ME	discr	98368	GBP.USD	Trump	1242099	GBP	chase	08/08/200
RT	qden	448539	GBP.EUR	Microsoft	1037513	GBP	GS	08/08/200
ME	discr	363437	GBP.USD	Trump	1201750	GBP	chase	08/08/200
ME	qden	436673	USD.EUR	Microsoft	1913974	USD	chase	08/08/200
ME	discr	59539	GBP.EUR	Microsoft	1595305	GBP	citigroup	08/08/200

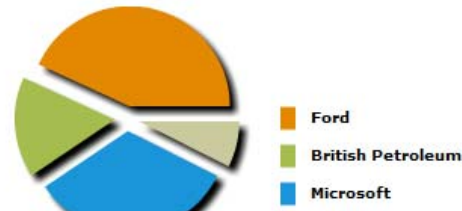
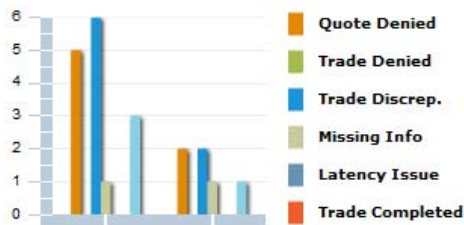
Exceptions Network monitors: ExternalMonitor1 ExternalMonitor2 ExternalMonitor3

Applicati	Msg.Code	refID	Curr.Pair	Custome	Dealt An	Dealt Cui	Provider	Trade I	A
RT	tden	291173	USD.EUR	Microsoft	1626163	USD	GS	08/08/20	Jr
FIX	tden	456897	GBP.USD	Microsoft	2500000	GBP	chase	09/01/20	M
FIX	miss	783456	GBP.EUR	British Pe	6000000	GBP	citigroup	09/01/20	M
FIX	tden	425897	GBP.USD	Microsoft	2200000	GBP	chase	09/02/20	M
FIX	miss	354256	USD.EUR	Microsoft	1000000	USD	GS	09/02/20	M
FIX	tden	888897	GBP.USD	Microsoft	2500000	GBP	GS	09/03/20	M
FIX	miss	334350	USD.EUR	Microsoft	1000000	USD	citigroup	09/03/20	M
FIX	tden	400897	GBP.USD	Microsoft	2000000	GBP	chase	09/03/20	M
FIX	miss	1356	USD.EUR	Microsoft	3300000	USD	GS	09/04/20	M

Required Actions

Send an email to Mary Lou Microsoft and explain her what happened.
If Mary is not responding within 15 Min, contact Joe Smith at 1-800-777-333.

Charts:



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

A portal for a logistics company

[file:///C:/RIA Logistics Portal](file:///C:/RIA%20Logistics%20Portal)

Order #11097454

Proposals

Reset to Lowest Bids Vendors for Item

Lead Time	Lowest Cost		Single		Current		
	Cost	Vendors #	Cost	Vendor	Cost	Vendors #	
10	\$11,430.79	8			\$11,430.79	8	
14	\$9,563.54	9			\$9,563.54	9	

Items Count

Lead Time, days

Covered Items Selected Items

Southern Pumping & Heating W.W. Grainger De Pire & Supply Co., Inc. Pastoral 3M Federal Systems Department
F&H Hatcher on Inc. HMC Winston Supply Lowes Carrier Mid-Atlantic Ralph Koon Inc.

Selected Items Cost Lead Time

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

A consumer-facing automotive Web site

[Mercedes-Benz USA](#)



Vehicles

Only Mercedes-Benz

Find Dealer

Receive Updates

Site Map

Mercedes-Benz Special Offers.

› Learn more about exciting special Lease and Finance offers.



- › Build a Vehicle
- › Compare Vehicles
- › Certified Pre-Owned

- › What's New
- › MB Special Offers
- › Assist me in Finding a Vehicle



› Special Offer



› New Vehicle



› Events



› Lifestyle

Mercedes-Benz

› Owners Online | › My MB Portfolio | Policies | Contact Us | MB Worldwide | © 2007 Mercedes-Benz USA, LLC

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

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

The screenshot shows a web browser window displaying the FoodDial Beta application. The address bar shows the URL <http://www.myflex.org/fooddial/FoodDial.html>. The page title is "Food Dial Beta".

On the left side, there is a circular arrangement of various food items, including vegetables, fruits, and proteins. A central orange is highlighted. Below the circle, the word "Vegetables" is written, and a broccoli icon is labeled "broccoli".

In the top right corner, there is a "Guest Facebook User" section with a "Login to Facebook" button.

The main content area displays "1 Recipe(s) found". The recipe shown is "Black Bean Soup" under the category "Soups, Salads & Sandwiches". A green arrow icon is visible next to the recipe title.

On the right side, there is a "Main Menu" section with buttons for "Find a Recipe>>", "Browse Recipes>>", and "Add a Recipe>>". Below this, there is a "Login to Facebook to add recipes" prompt. A "Tag Cloud" section is also present, featuring the tag "Diabetic" and "Vegetarian chicken". At the bottom right, there is a logo for "FARATA" with a circular arrow graphic.

The browser's status bar at the bottom shows "Done" and "Internet".

A **Flex Eating ~~S~~OU~~P~~ for Breakfast**

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

http://localhost:8080/test/CDBEP%20(Flex)/ClearBIEUEditorSampleApp.html - Windows Internet Explorer

http://localhost:8080/test/CDBEP%20(Flex)/ClearBIEUEditorSampleApp.html

Composition: Dacha Report: GroupingExample

Emp Id	Manager Id	First Name	Last Name	Street	Salary	City	Zip Code
State: MA							
Department: <i>Shipping</i>							
1615	703	Sheila	Romero	1 Oakview Terrace	\$27,500.00	Bedford	01730
703	902	Jose	Martinez	123 Washington Street	\$61,050.88	Westwood	02090
Totals for department <i>Shipping</i>					\$330,046		
Totals for state <u>MA</u>					\$3,182,510		
State: TX							
Department: <i>R&D</i>							
958	501	Thomas	Sisson	54 School Street	\$42,100.00	Houston	77079
1090	501	Susan	Smith	177 Johnson Street	\$51,411.00	Houston	77079
862	501	John	Sheffield	45 Belleview Drive	\$87,900.00	Houston	77079
Totals for department <i>R&D</i>					\$181,411		
Department: <i>Sales</i>							
667	902	Mary	Garcia	98 Purvis Street	\$39,800.00	Houston	77079
467	902	James	Klobucher	18 Corning Street	\$49,500.00	Houston	77079
Totals for department <i>Sales</i>					\$89,300		
Totals for state <u>TX</u>					\$270,711		
Grand Total for the Enterprise:					\$3,727,511		



ClearBI Report Designer for end users

The screenshot displays the ClearBI Report Designer web application running in Internet Explorer. The browser address bar shows the URL: `http://localhost:8080/test/CDBEP%20(Flex)/ClearBIEUEditorSampleApp.html`. The application interface includes a top toolbar with options like Layout, Filter, Sort, Groups, Printing, Query, and Charts. Below this is a rich text editor toolbar with various formatting options. The main area shows a report layout with a table of employee data. The table has columns: Emp Id, Manager Id, First Name, Last Name, Street, City, and Sala. A yellow tooltip is visible over a cell containing a complex formula: `if (DEPT_ID = 100, "R&D", if(DEPT_ID=200, "Sales", if(DEPT_ID=300, "Finance", if(DEPT_ID=400, "Marketing", "Shipping"))))`. Below the table, there are sections for 'Totals for dep', 'Totals for state CA', and 'Grand Total for the Enterprise:'. At the bottom, there is a 'Group Column Attributes' panel with fields for Column ID (col7), Width (100), Data Element, Format (None), Show Tips, Tip (None), and Formula (`if (DEPT_ID = 100, "R&D", if(DEP`). The bottom of the interface has 'XML', 'Save', and 'Cancel' buttons.

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



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

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