

Rich Internet Applications with Flex and AIR

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Adobe

RIA Trends



Expressiveness
Vector Graphics

Rich Media
Audio, Video

Performance
VM, JIT Compiler

Real Time
Pub/Sub Messaging

Desktop Client
Desktop sandbox, Offline

Programming Model
Enterprise Integration

Widest Reach in the World

Flash Player has **99%**
reach
on connected PCs
8 million installs/day





ADOBE[®] AIR[™]

Cross-OS runtime to run rich Internet applications on the desktop.

- Embedded RDBMS (SQLite)
- Database API
- Embedded HTML engine (WebKit)
- File I/O API
- Native OS drag-and-drop
- Network detection
- System notifications
- Application updates

Flex Programming Model

- ActionScript (ECMAScript 4)

```
public class MyClass implements MyInterface {  
    public function doSomething():void {  
        try {  
        } catch (e:Exception) {  
        }  
    }  
}
```

- MXML

```
<VBox>  
    <DataGrid dataProvider="{ws.getProducts.result}"/>  
    <LineChart dataProvider="{ws.getProducts.result}"/>  
    <Button label="Get Data" click="ws.getProducts()"/>  
</VBox>
```

ECMAScript 4 Language Characteristics

- Types
- Classes
- Interfaces
- Packages
- Namespaces
- Strong and dynamic typing
- Closures

Class Library

UI Components

- Datagrid, Tree, List, TileList, HorizontalList, ...
- Tab, Accordion, Menu, ContextMenu, ...
- RichText Editor, Sliders, ...
- ToggleButton, PopupButton, ...

Media

- Video, Audio, Streaming

Layout Management

- Panel, VBox, HBox, VDividedBox, HDivideBox, Form, Tile, Grid, ...
- Constraint-based layouts
- View States

Data Visualization

- LineChart, ColumnChart, BarChart, PieChart, HLOC, Candle, Plot, Bubble, ...
- AdvancedDataGrid, OLAPDataGrid

Expressiveness

- Styling and Skinning
- Effects, Transitions

Data

- HTTPService, WebService, RemoteObject
- Producer, Consumer
- DataService
- E4X data binding
- Paging
- Validators
- Formatters

Data Connectivity

- RPC
 - HTTPService
 - WebService
 - RemoteObject
- Publish/Subscribe
 - Polling
 - Long Polling
 - HTTPStreaming
 - Full duplex socket-based protocol (RTMP)
- Data Management
 - Automatic Client to Middle-Tier Data Synchronization
 - Conflict Resolution
 - Automatic Clients Synchronization (Object changes pushed to clients subscribed to object)
 - Offline synchronization
 - Paging

More Flex Capabilities

- **Localization**
 - Static or dynamic resource bundles
- **Large Application Partitioning**
 - Runtime Shared Libraries
 - Modules
- **Build Integration**
 - Command line compiler
 - ANT tasks
- **Unit Testing**
 - FlexUnit
- **Functional Testing**
 - Flex Automation Package
 - Mercury QTP
 - Rational Functional Tester 7.1
 - Borland

FlexBuilder

- Eclipse Plugin or Standalone
- Design View and Code View
- Code Completion
- Refactoring
- Visual CSS Editor
- Visual Debugger
- Visual Profiler
- Multiple SDK Support
- Data Wizards (ASP, J2EE, PHP, ColdFusion, ...)
- Web Services introspection and stubs generation

Adobe Flex



Adobe® Flex™ 3 SDK Open Source Flex SDK

MXML and ActionScript 3.0

Framework and Class Library

Command-line Compiler

Adobe Flex™ Builder™ 3 Standard Edition

Visual Layout

Code Hinting

Debugging

Skinning & Styling

LC Adobe® LiveCycle® Data Services ES

Data Management

Web-Tier Compiler

RIA-PDF Creation

Portal Deployment

Blaze DS

Messaging

RPC Services

Service Adapters

Proxy Service

Professional Edition

Charting Components

Advanced DataGrid / OLAP

Performance/Memory Profiling

Automated f(x) testing support

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