

Easily build mobile apps for iOS and Android™ with Adobe

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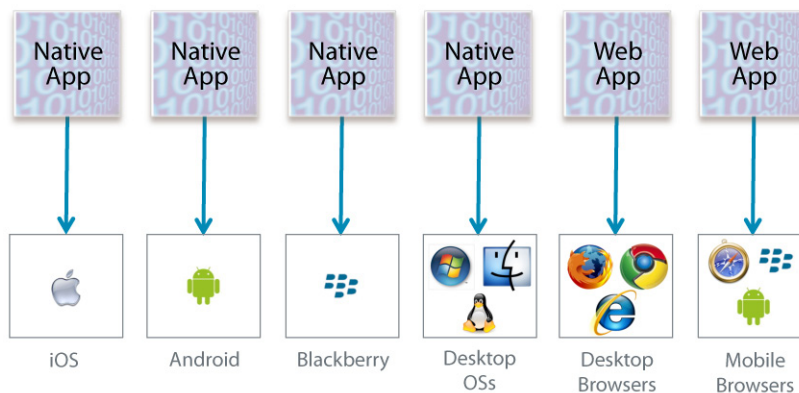
The explosion in the number of mobile devices has created a major challenge for IT organizations. The mobile market is not limited to a single—or even just a small number—of vendors, so IT organizations must make their applications available on multiple mobile platforms to ensure a broad reach. Fortunately, Adobe gives IT the tools to do this easily and quickly.

The explosion of devices introduces
new challenges for enterprises...



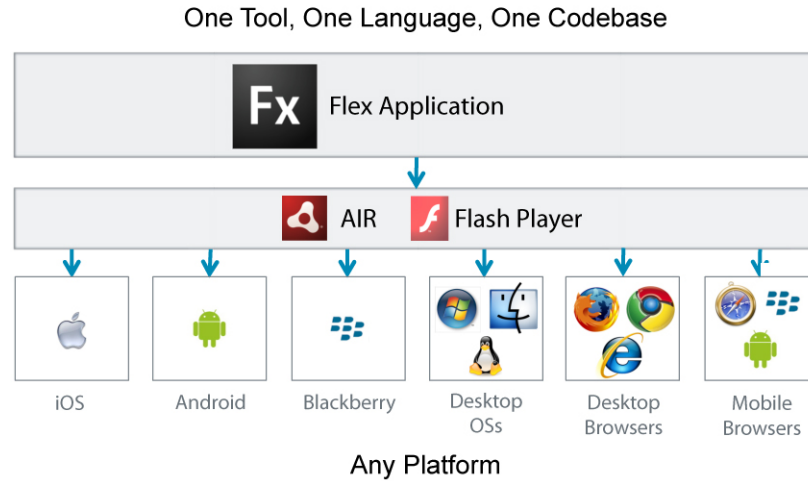
If you need your application to target multiple platforms, you could use a native approach in which you build an application for each platform. A major downside of this approach is that you must build and maintain multiple codebases for the same application. Because each version of the application is built with a different language, different programming model, and different toolset, it is difficult for the same team to build and maintain all versions, and often a separate team is needed to build each version. For many IT organizations, this multiple codebase and multiple team approach is not a sustainable model.

Native Approach



Flex 4.5 is solving this problem by offering a cross-platform framework and development environment. Using Flex, you can build a single version of your application and run it on iOS, Android, and BlackBerry, dramatically shortening time to market and reducing the cost of application development and long-term maintenance. You use a single language, a single programming model, and a single toolset, and you maintain a single codebase. The Flex framework also provides powerful features to help developers build applications that work across multiple screen resolutions and densities. The mobile version of your application can also share the same code as the non-mobile (web or desktop) version.

One Codebase Approach



One tool, one codebase

Flex and the Adobe® Flash® Builder® IDE provide a number of advantages to teams building mobile apps for multiple platforms.

Productivity

The single codebase approach offers a dramatic productivity gain compared to the native approach. Productivity is further increased by the use of a familiar programming model with high-level APIs and artifacts, as well as a powerful Eclipse™ based IDE to develop, debug, and profile your application.

Advanced tools for developing, debugging, and profiling

While Flex applications can be built using just the free Flex software development kit (SDK), the Eclipse-based Flash Builder IDE accelerates development with features like intelligent code editing, step-through debugging, memory and performance profilers, and visual design.

Several new features are available in the latest version of Flash Builder. With the Flex Mobile Project option, you can specify the platforms you want to build for, whether it's iOS, Android, or BlackBerry. You can run, debug, and profile your application in device simulators or directly on the device.

Expressiveness

With Flex, you can build cross-platform applications that have the same level of polish and expressiveness as native applications. The Flex framework features a large number of out-of-the-box components that have built-in support for mobile gestures, behaviors, and transitions. Flex components also come with mobile skins that can be entirely customized to fit your brand requirements. If needed, you can also use powerful drawing and vector manipulation APIs.

Performance

With Flex, you can build cross-platform applications that have a similar level of performance as native applications.

Consistency and feature parity

Because there is a single version of the application, users get the same great experience (and the same set of features) across platforms. Far from using a least-common denominator approach, Flex supports the unique capabilities and idiosyncrasies of each platform, allowing you to provide a consistent user experience across platforms while preserving a native experience on each individual platform.

Accessing device features

To unleash the power of mobile devices, most applications make use of their built-in capabilities, including GPS, accelerometer, camera, local database, dialer, and SMS, among others. Flex provides a single set of APIs to access these resources, regardless of the target platform. You can use the `isSupported()` method to check if a specific feature (for example, GPS) is available on the device on which the application is running.

The device integration APIs include the following:

Geolocation (GPS)—You can register an event listener that is fired when the GPS broadcasts a new location. The event object holds all the information that your application might need to react to a new location, including latitude, longitude, altitude, and speed.

Accelerometer—Similar to the GPS, you can register an event listener that is fired when the accelerometer broadcasts an acceleration message.

Camera—The camera API provides access to both the camera and the camera roll.

Multitouch—Flex supports both touch and gesture events. Touch events are lower-level events (such as `TOUCH_BEGIN`, `TOUCH_END`, and `TOUCH_TAP`) that generally require your code to interpret the meaning of the touch interaction. Gesture events are higher-level or composite events, such as swipe, zoom, pan, and rotate.

Database—The database API lets you work with the local database available on your device.

Application integration—You can invoke other applications available on your device and pass them the information they need. For example, you can invoke the phone dialer, the SMS application, or an email client.

StageWebView component—The StageWebView component allows you to render HTML content inside a Flex application using the underlying HTML rendering engine available on your mobile device.

Adobe Digital Enterprise Platform

Flex is a component of the Adobe Digital Enterprise Platform (ADEP), integrating with other components of that ecosystem to provide complete, state-of-the-art mobile solutions.

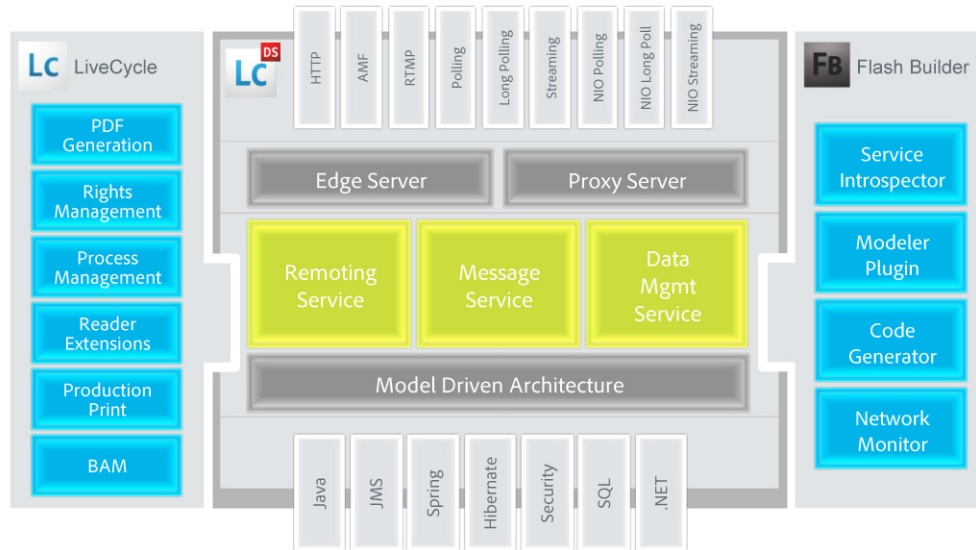
This guide is based on a recording on June 6, 2011. On June 20, 2011, Adobe announced the new Adobe Digital Enterprise Platform, a composite content application platform based on Adobe LiveCycle® Enterprise Suite and CRX. The LiveCycle capabilities described here are also now available within the ADEP software. To learn more about the ADEP, visit www.adobe.com/devnet/enterprise-platform.html.

Web content management

The spectrum of applications being built for mobile devices ranges from static, content-driven mobile sites to highly interactive apps. Even if your application is on the interactive side of that spectrum, there are often situations that call for content to be displayed. For example, a highly interactive Trader Desktop application might need to display financial analyst reports. In these situations, you can leverage the Flex integration with Adobe's market-leading Web Experience Management solution, instead of creating the content management infrastructure from scratch.

Data Services

LiveCycle Data Services Architecture



Mobile applications introduce new data integration challenges. For example, if your application needs to support offline mode, developers need a way to synchronize offline data with online servers. The Data Services architecture [formerly, LiveCycle Data Services] provides a sophisticated offline synchronization infrastructure to support these use cases.

Pushing data to the client application in real time is another challenge. On mobile devices, the network connection might not always be fast and reliable, so your application must adapt to poor network quality situations. Data Services provides a complete messaging solution that is well suited for mobile applications. For example, Data Services includes sophisticated message throttling and message conflation features to ensure that the server doesn't try to send more messages than the client can consume.

Collaboration Services

With the Collaboration Services SDK you can easily add real-time collaboration features (including videoconferencing, white-boarding, simulation, and more) to your Flex application.

Additional information and resources

- Adobe hosts a series of a series of webinars at <http://cem.events.adobe.com/devcomm>.
- Adobe Developer Connection is a great source for learning more about web and application development (visit www.adobe.com/devnet.html).
- You can download a trial from the Adobe website (Flash Builder 4.5 at www.adobe.com/go/try_flashbuilder and Adobe Digital Enterprise Platform at www.adobe.com/devnet/enterprise-platform/trial-downloads.html?sdid=JBEJL).
- Forums are available for the ADEP and Flex at <http://forums.adobe.com/community/adep>.
- The Adobe Enterprise Café provides access to many resources for building enterprise applications using Adobe AIR® (visit www.adobe.com/go/cafe).
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