



Mobile Cross Platform Development – *really?*

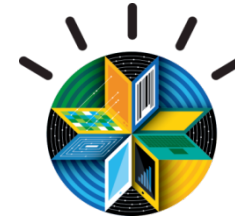
Jonathan Marshall, IBM Mobile Technical Specialist





The industry's most comprehensive mobile portfolio

IBM MobileFirst



1

**The Broadest
Portfolio of
Mobile
Solutions**

2

**The Deepest
Set of Services
Expertise**

3

**New Industry
Partnerships
and Resources
for Developers**



IBM MobileFirst Offering Portfolio





IBM MobileFirst Platform

For clients that need to:

- Quickly develop and deploy high quality mobile apps across multiple platforms
- Seamlessly connect rich mobile applications to enterprise data and services

IBM MobileFirst Platform offers:

- ✓ Native, web, or hybrid app development
- ✓ Tools to build & test high quality apps for many devices
- ✓ Management, security, continuous delivery & distribution of apps
- ✓ Easy connectivity to existing data & services for mobile usage
- ✓ On-premises or managed service delivery

Available Today!

- Automated testing for high quality mobile apps (planned beta in 1Q)
- Streamlined deployment for private clouds on PureApplication System
- Single sign-on across multiple apps on a device
- Latest versions of all major mobile OS' s (iOS, Android, Windows, and BlackBerry)

IBM Worklight

IBM Rational Test Workbench

IBM Mobile Application Platform Management



Why mobile development is different

Mobile apps are different.

- **They are more strategic** – Greater urgency and immediacy of engagement
- **They are context-aware** – know where you are and what you are doing
- **They run on unstable networks** – interruption is the norm, not the exception
- **Smaller footprint** – More challenging to make compelling and easy to use
- **Always on** – An opportunity to deliver greater value

Management is different.

- Smaller screens pulling content from more sources: **need to choreograph** content from multiple repositories and applications, both on premises and in the cloud
- Greater challenges of application **governance, distribution, and version management**
- **AppStore Terms of Service** present challenges for managing B2C apps

Development is different.

- **Faster development cycles**
- **More devices** to support, each with its own set of capabilities, OS and UI behaviors
- **More development approaches** to choose from – Web, HTML, Native
- More **third-party and open-source tools, frameworks and libraries** to choose from

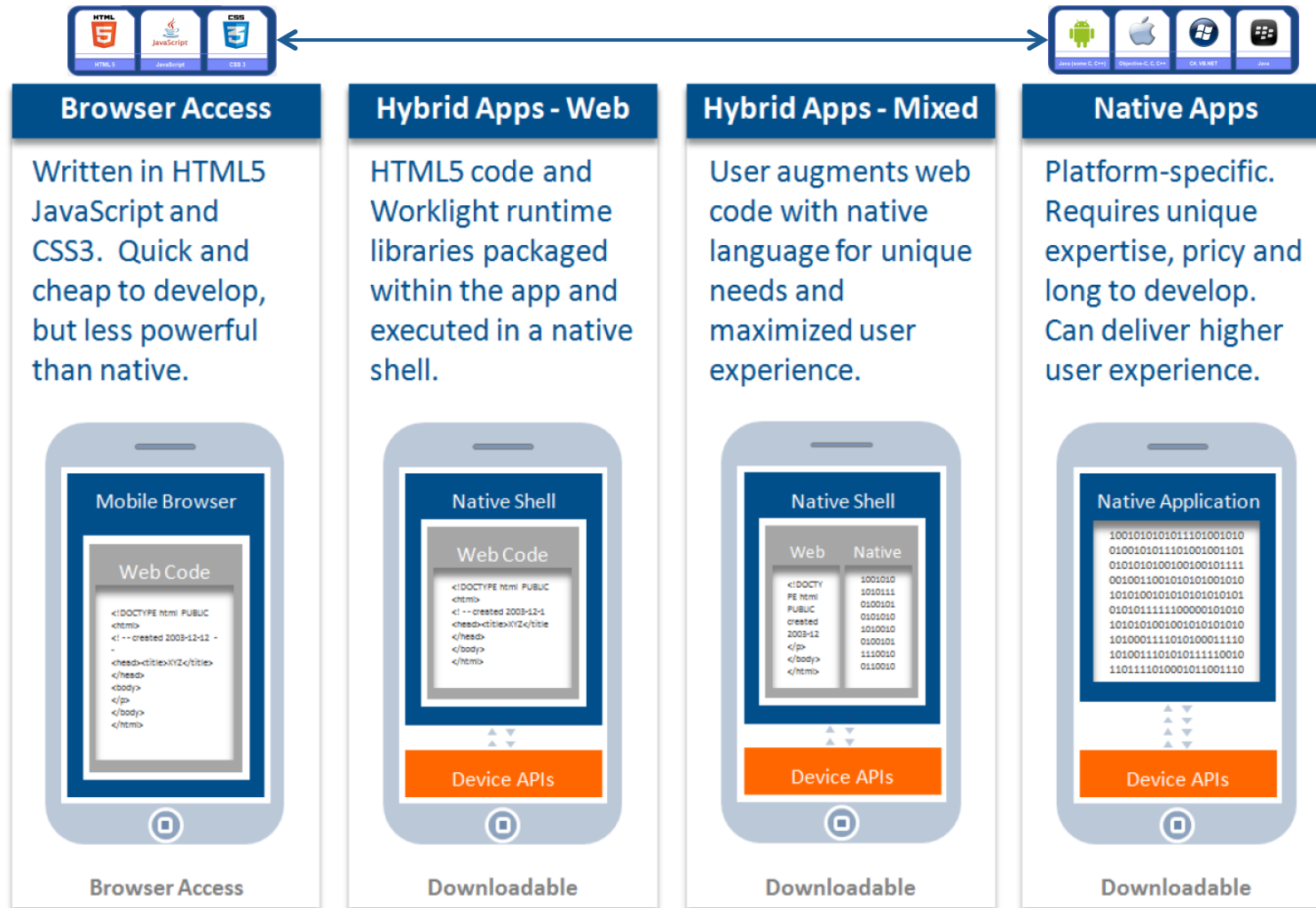
Security is different.

- **Greater risks** of exposing applications and data on small, light and always on portable devices
- **Greater authentication challenges** associated with content mashups
- **AppStore** Terms of Service can limit security options



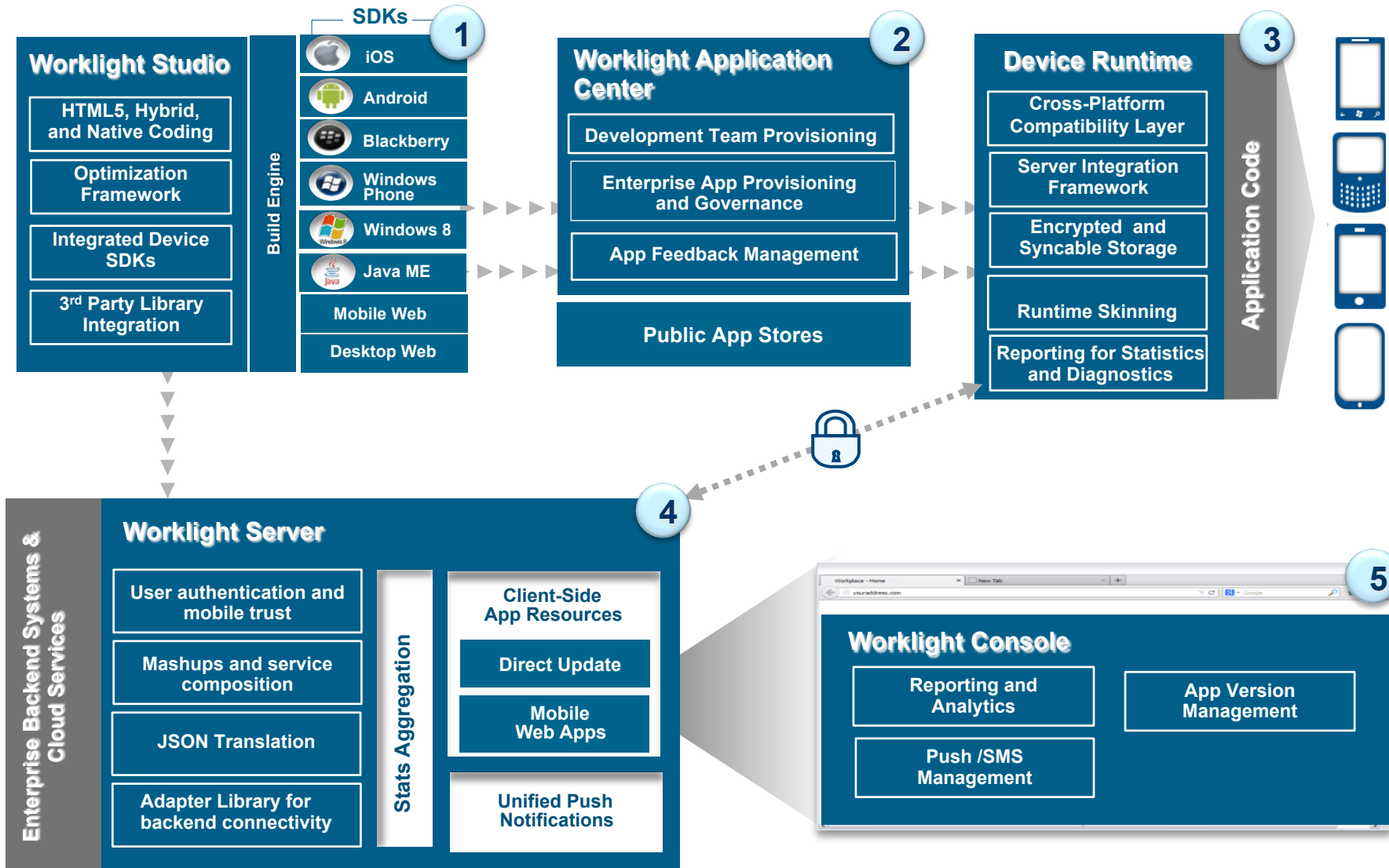


Supporting multiple mobile application development models





Worklight Components





DEMO

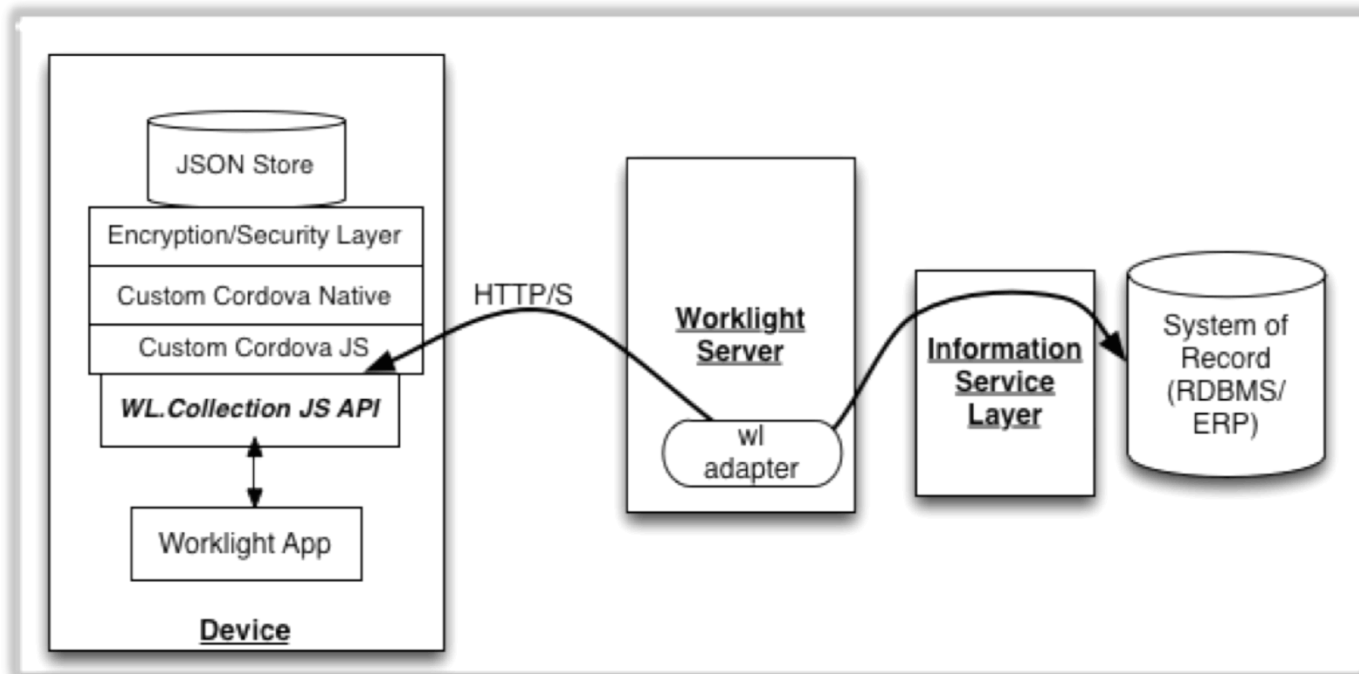


ADDITIONAL CROSS-PLATFORM CAPABILITIES



JSON store with data sync

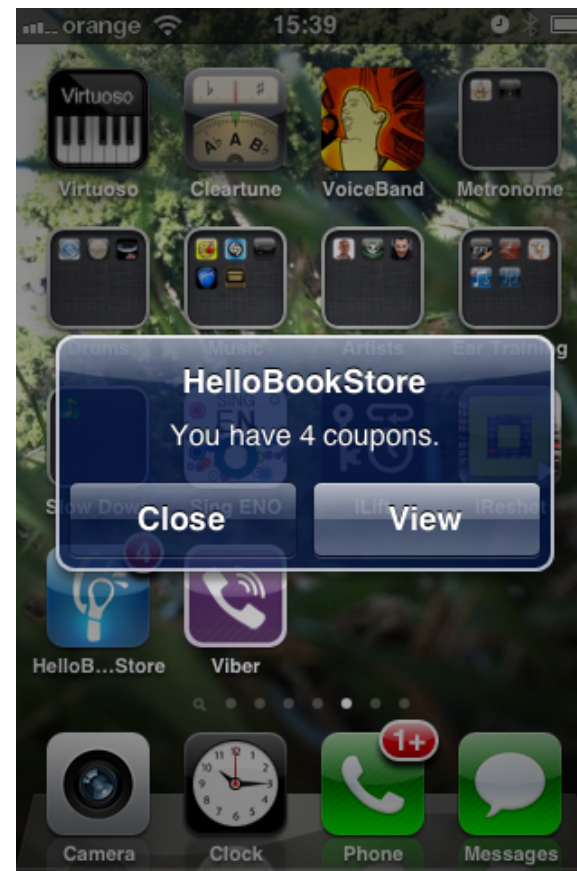
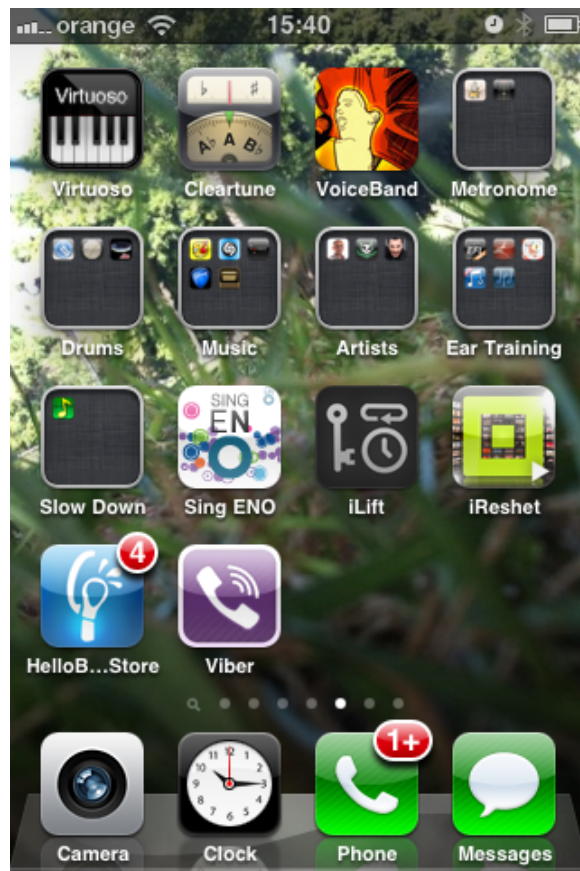
- JSON store database is embedded into framework
- JavaScript APIs for storing, querying and updating data in offline mode are available
- Sensitive data can be encrypted by using a developer/user provided password
- Automatic adapter based server-to-client and client-to-server synchronization allows working with data in offline mode and keeping it updated in online mode





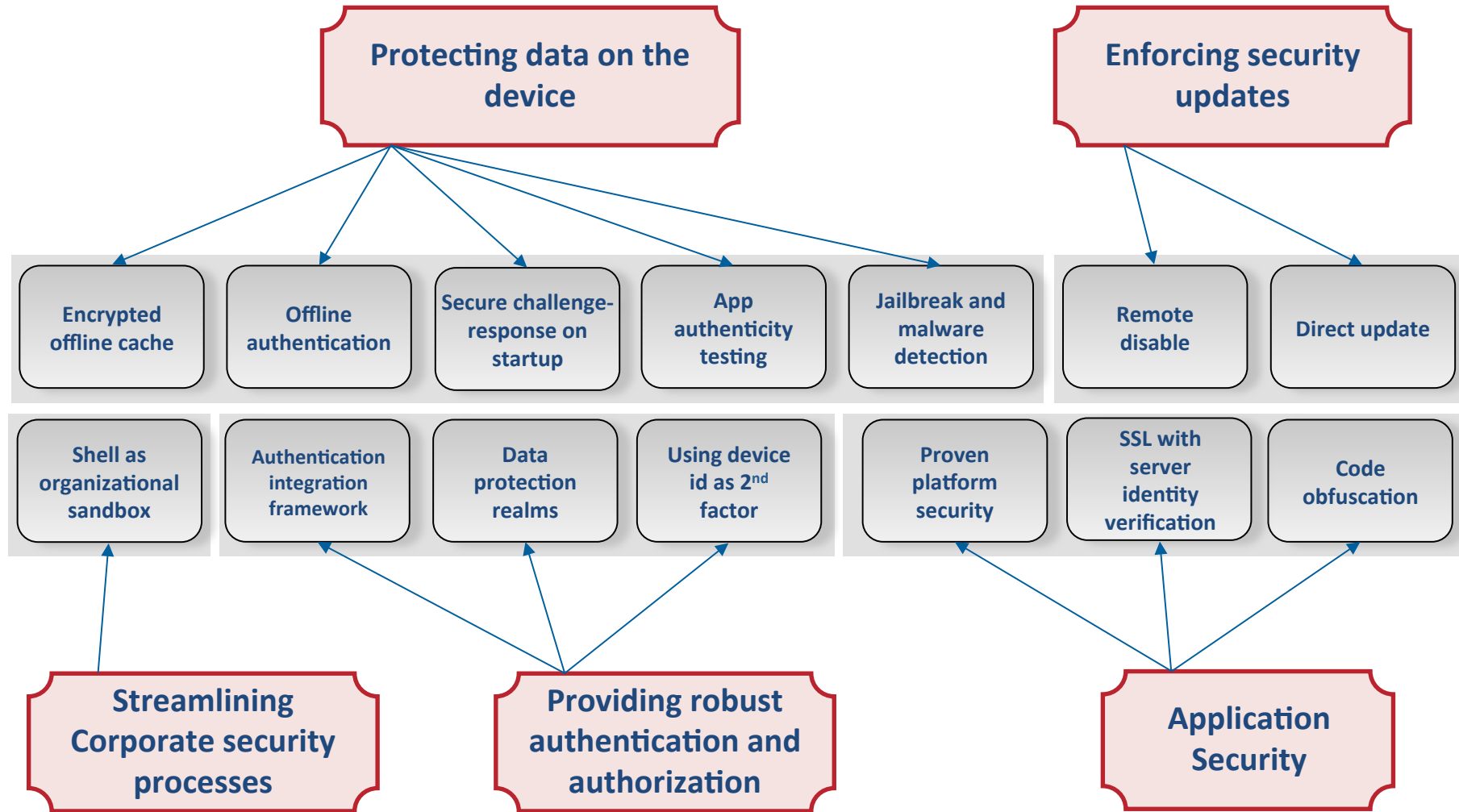
Push Notification

○ Receiving Notification on the Device





Securing Mobile Apps





CROSS-PLATFORM CONSIDERATIONS



Cross-platform development considerations – UI quality



VS





Cross-platform development considerations - Maintenance



JavaScript is great for flexible development

But make sure you develop in a structured
and modular way

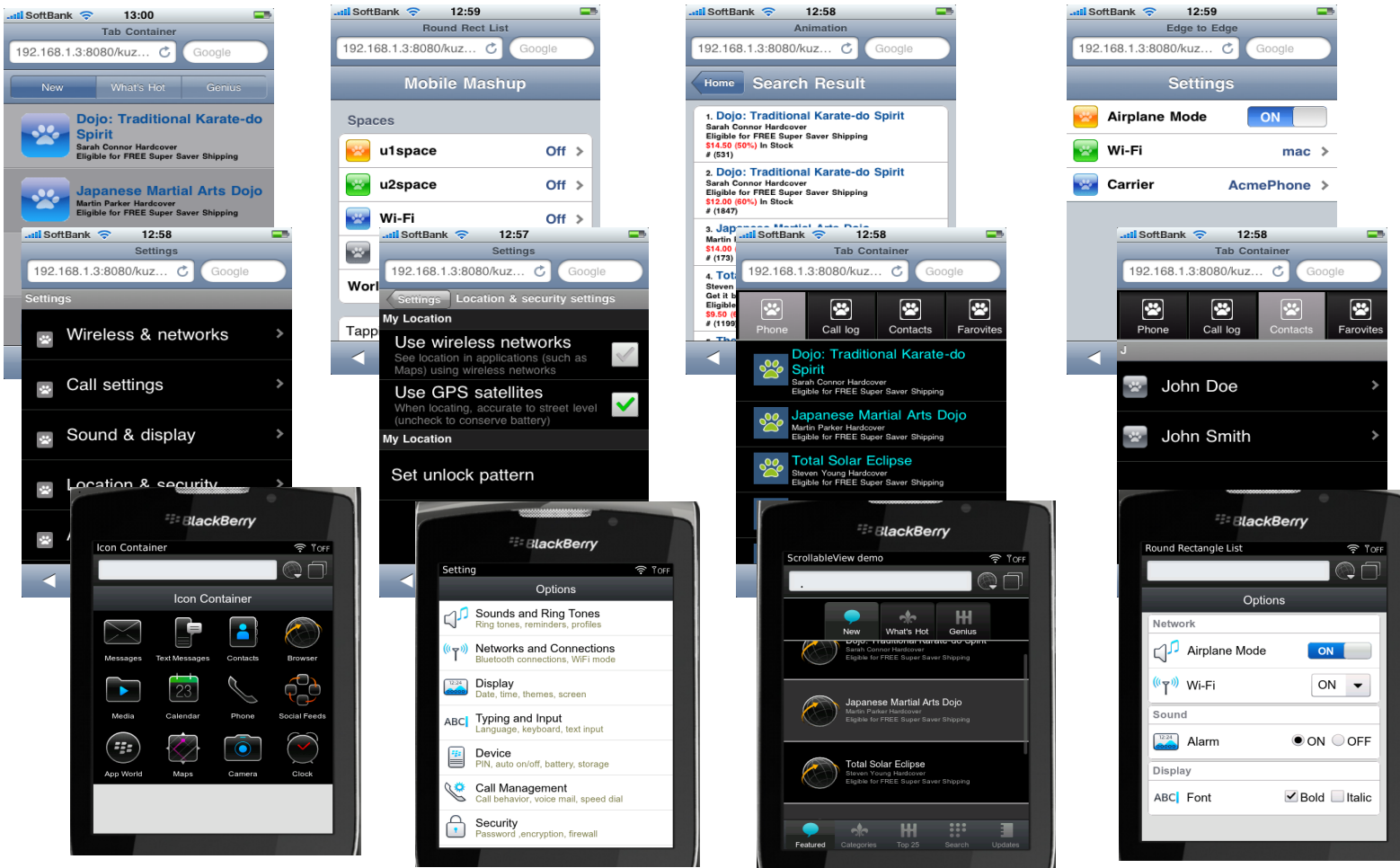
Use a good framework

dōjō





Themes: iPhone, iPad, Android, Blackberry





Cross-platform development considerations – The power of hybrid

```

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  <View id=ViewA>
    <Heading>ViewA</Heading>
    <RoundRect>
      <ListItem>
      <ListItem>
      <ListItem>
    </RoundRect>
  </View id=ViewA>
  <View id=ViewB>
    <Heading>
    <RoundRect>
      <ListItem>Video</ListItem>
      <ListItem>Maps</ListItem>
      <ListItem>Phone</ListItem>
    </RoundRect>
  </View id=ViewB>
  
```

What about advanced capabilities?

- High end UI
- Complex native integration

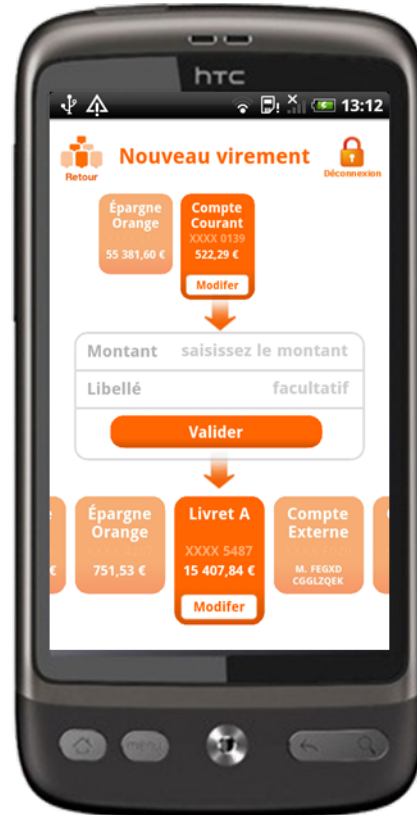
Resorting to native capabilities is still possible



CUSTOMER EXAMPLES



Customer Spotlight – ING Direct





Customer Story: Lotte Card





Three Ways to Get Started with IBM

1

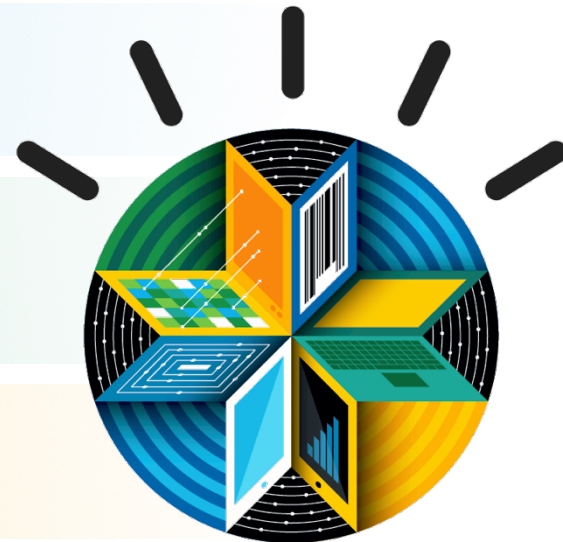
Download the free IBM Worklight Developer Edition: ibm.com/developerworks/mobile/worklight

2

Download the free IBM Mobile Development Lifecycle Solution (Worklight PLUS ALM): ibm.com/developerworks/cloud/cloudtrial
Promo code IMDLS

3

Learn more: ibm.com/mobilefirst



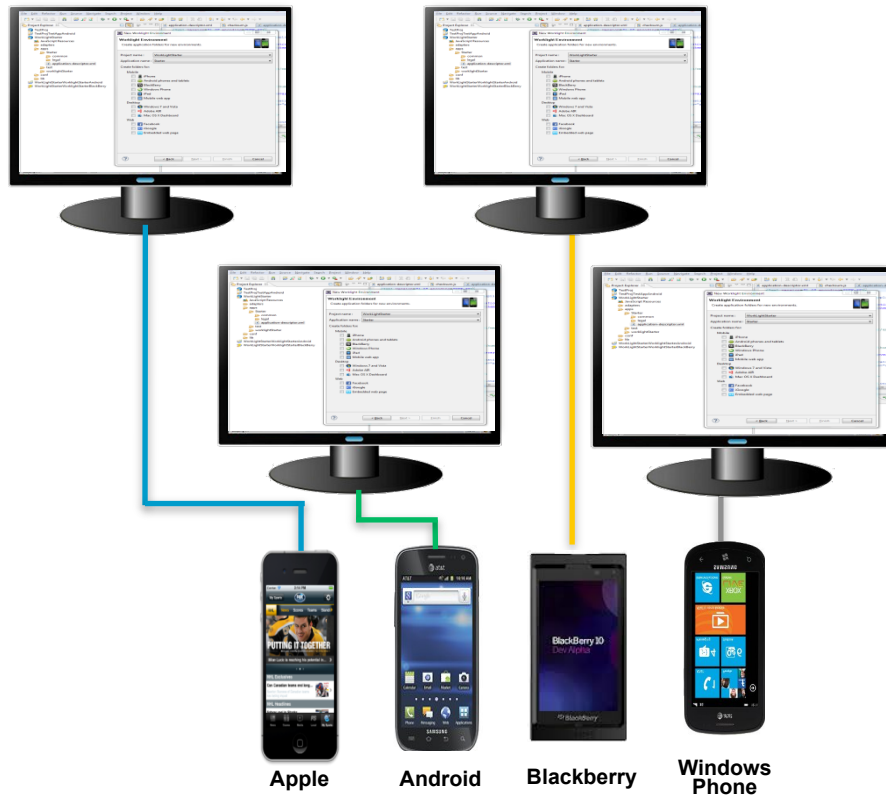
IBM®



Rapid multi-platform development using a single shared codebase

From the complexity of many...

- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



To the simplicity of one

- One development environment
- One codebase to develop and maintain

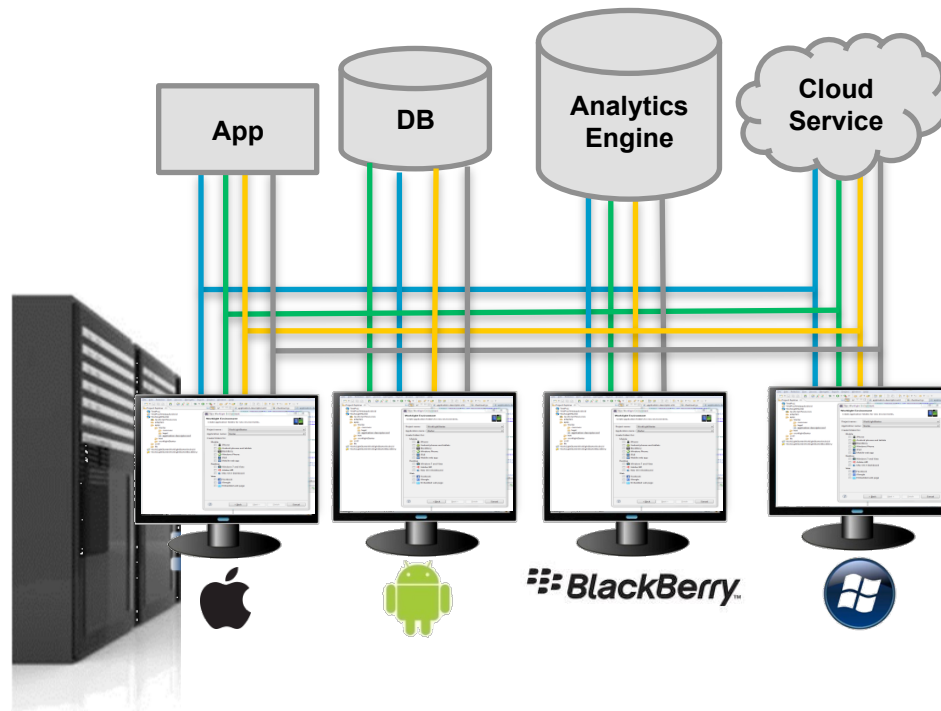




Extend the value of existing investments in applications, data, and services

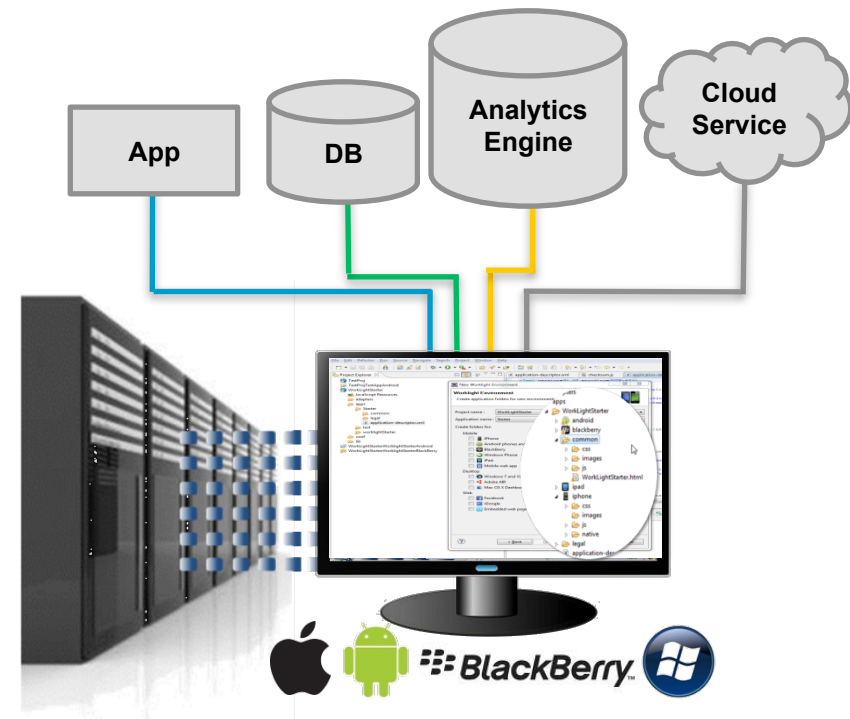
From the complexity of many...

- Multiple sets of back-end integrations to build and manage
- YOU manage caching, authentication and single sign-on, service interruptions and push notifications



To the simplicity of one

- One adapter per resource
- Worklight Server manages caching, authentication and single sign-on, service interruptions and push notifications



With Worklight



Security patches in hours versus months

Situation: App published with HTML-based security breach

From uncertainty...

Week 1

- **Patch and package:**
 - Android app
 - Apple app
 - Windows app
 - Blackberry app

Week 1

- **Submit for review:**
 - Apple Store
 - Google Play
 - Blackberry AppWorld
 - Windows App store

4-6 week publishing cycle

Date Resolved

Never. There is no way to require users to upgrade or prevent them from running a published app.

To governance and control

Hour 1

Patch common code base.

Hour 2

Deploy to all platforms.
Apple, Android, Blackberry, Windows Phone

Direct Update: The next time users launch the app, they are forced to update or quit the app.

Date Resolved

Same day, guaranteed.



Mobile Application Center

- A cross platform private mobile application store similar to public app stores but focused on the needs of an organization or a team
- Ease highly iterative development process and distribution of mobile applications
- Key capabilities:
 - Delivers distribution and management of mobile applications within a company / teams
 - Easy distribution of iOS and Android apps within a team
 - Supports any mobile applications
 - Provides versioning and updates
 - Centralizes rating and feedback information
 - Controls who can modify or install an application
 - Easy to install and simple to run



✓ App store supporting iterative development lifecycle to improve collaboration with application stakeholders, QA and Development teams

✓ Cross platform, technology agnostic mobile application store



High quality mobile apps built and tested for a rapidly evolving mobile infrastructure

▪ Mobile Test Automation

- Support for native, and hybrid applications running on Android and iOS
- Natural language test and visual test editing
- Simplified IDE and mobile device clients for test authoring, execution, and reporting

▪ Eclipse Client integration

- Mobile Test Automation
- Support for Selenium web GUI test automation
- Multi-channel test scenarios
- Integration with Rational Quality Manager and the IBM Worklight mobile development platform

▪ End-to-end mobile testing

- Virtualization of middle-tier and back-end systems
- Dynamic instrumentation of mobile applications
- Capture and high-fidelity replay of multi-touch events





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